



Evolution

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**owners manual**

Revision 1

# Warranty & Safety

## Radio Controlled Helicopters of this size are not Toys!

### Please read before use.

Radio controlled helicopters use various high tech electronic technologies and products. Improper use of these products can result in serious injury, or even death. Please read this manual carefully before flying the Rush 750™. Make sure to be conscious of your own safety and the safety of others.

Neither AleeS Inc nor its affiliated groups or sellers have any control over the assembly, maintenance, and use of this product. Therefore, no responsibility can be traced back to the manufacturer. By assembling and flying this product, you hereby agree to release AleeS Inc., its Distributors, Dealers, and Affiliates from any responsibility or liability arising from the use of this product.

The user/purchaser is responsible for common knowledge and observance of one's own safety and the safety of others that may be affected by the use of the product be they a participant or spectator. This radio controlled helicopter is intended for use only by those with experience flying radio controlled helicopters at a legal flying field. After the sale of this product, we cannot maintain any control over its operation or usage. We recommend that you obtain assistance from an experienced pilot before attempting to fly our products and to help verify proper assembly, setup, and flight of your model for the first time. This AleeS™ helicopter is a consumer item that requires a certain degree of skill to operate. Any damage or dissatisfaction as a result of accidents or modifications are not covered by any warranty and cannot be returned for repair or replacement.

### Safety notes:

You can lose control over the helicopter at any given moment for a number of reasons, NEVER fly over or near other people.

Choose a legal flying field

- Verify air field to have ample space, flat, and smooth ground.
- Clear airfield from debris and obstacles.

### Do not operate:

- If model has been in contact with rain, moisture, or contaminants.
- If model has been in contact with fire or high heat - plastics are very susceptible to damage or deformation due to heat.
- In crowded areas.
- Near homes, schools, or hospitals.
- Near roads, railways, or power lines.
- Near another radio controlled unit that uses same frequency.
- Do not allow children to operate.
- If tired, sick, or under the influence of drugs or alcohol.
- If beginner or individual(s) planning to operate a borrowed helicopter without being familiar with model or safety instructions.

### Inspect All Parts:

- Before each flight, check for damaged parts and verify all parts operate normally with all functions in order.
- Adjust the positioning of movable parts and check that all nuts, bolts, screws are fastened correctly in accordance to this instruction manual.
- Verify all parts are installed correctly.
- Verify that there are no abnormalities that would adversely affect the flight of the helicopter.
- Verify all batteries on board helicopter and transmitter are to a sufficient level of charge.
- Exchange or repair damaged or worn parts using only parts shown in this instruction manual, or via the online catalog.
- Verify there is no introduction or exposure to water or moisture in any form.

### During operation of helicopter:

- Maintain safe distances from aircraft and rotating main/tail rotor blades.
- Always be aware of your surroundings and be conscious of your actions.
- Never leave your model unattended.
- Maintain eye contact during all aspects of flight.
- Maximum main rotor speed of 2000 RPM's for 690-710mm rotor blades, and 1800 RPM's for 720mm+ rotor blades, or maximum specified speed by the rotor blade manufacturer. Failure to maintain these speeds could result in catastrophic failure of either the aircraft and/or rotor blades which could result in injury or even death!

# Mechanical Features

## FEATURES & BENEFITS

### Chassis and Drive System:

- 112T CNC helical main gear modulus 1;
- 105T CNC auto-rotation gear modulus 1;
- 23T CNC counter gear modulus 1;
- 24T bevel gears modulus 1;
- Alees all-new, industry's first "TDD" Drive System (patent pending; more details to come);
- Field replaceable bevel and counter gears;
- Dual ball bearing supported one-way hub assembly with sprag style clutch bearing;
- Triple main shaft bearing support;
- Bridged top bearing block for superior drive system rigidity;
- Motor shaft end bearing block;
- Large open saddle style battery pockets for up to 7s packs with room to spare;
- Ample space for modern electronics placement, ventilation and serviceability;
- Protective flybarless gyro mounting compartment;
- Direct servo to swash linkage for reduced parts count;
- Easy servo install/removal design;
- Sleek carbon fiber landing skid standard; and
- Canopy pin break away system.

### Head System:

- Robust triple radial bearing main blade grips
- 10mm Super Duty Spindle shaft
- 1 piece flap Hard 3D dampers
- Compact center hub
- Alees "2SIC" innovative rotor head design (patent pending) combined phasing/pitch/cyclic control levers with dual step bearing placement for increased operational precision and low servo loading
- Heavy duty plastic ball links for today's high-power demands
- Compact swash plate with maintenance friendly design
- Stainless steel linkage balls for strength and improved wear resistance
- Turnbuckle style swash linkage rods; and
- Turnbuckle style pitch linkage rods

### Tail System:

- Ultra rigid aluminum tail boom;
- Ultra rigid torque tube shaft with quad ball bearing support;
- Split ring tail control rod guides for easy install/removal;
- Compact tail hub and gear box;
- Dual supported pitch mechanics;
- Anti-twist tail case w/ safety locking pin screw; and
- Dual radial and thrust tail blade grips.

### Canopy:

- Alees all-new "Legend II" canopy with superb aerodynamic characteristics;
- Air-brushed by Canomod.

### ASSEMBLED SPECIFICATION:

- Length: 1185mm (without Canopy)
- Height: 398mm
- Width: 185mm
- Air Frame only with canopy weight: 1.8kg
- Approximate Ready to fly weight: 5.0kg
- Main Rotor Diameter w/ 710mm blades : 1608mm
- Tail Rotor w/ 115mm blades: 296mm
- Torque Tube drive gear ratio: 4.57:1

Ball Bearing 5 x 9 x 3mm



...x2

Ball Bearing 3 x 8 x 3mm



...x2

Ball Bearing Flanged 2 x 5 x 2.3mm



...x4

# Flybarless Head

Bag 1

Cap Screw M3 x 10mm  
(Part # CS3X10) ...QTY 1



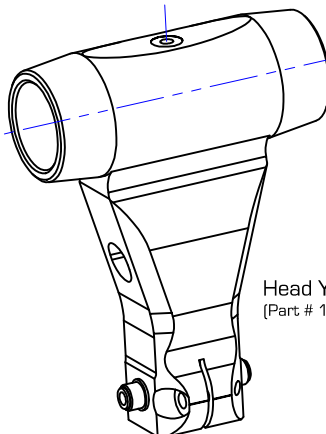
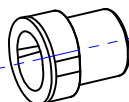
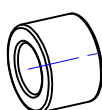
Flap Dampers

(Part # 100-0007) Hard (Black)(High Head Speeds)  
(Part # 100-0008) Medium (Grey)(Recommended) ... QTY 2 Each

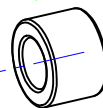
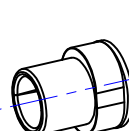
Head Button  
(Part # 100-0002) ... QTY 1



Flap Insert  
(Part # 100-0006) ... QTY 2



Head Yoke Flybarless  
(Part # 100-0003) ... QTY 1



2SIC™

2 Single Input Controls

AleeS Inc.  
Intellectual Property  
\*\* Patent Pending \*\*  
Flybarless Head Design  
All Rights Reserved

Bearing 5 x 9 x 3mm  
(Part # BMR95ZZ) ... QTY 2

Nut, Locking M2  
(Part # LMN2) QTY 2

Bearing Flanged 2 x 5 x 2.3mm  
(Part # BF682ZZ) ...QTY 4

Cap Screw M2 x 14mm  
(Part # CS2X14) ... QTY 2

Radius Arm  
(Part # 100-0012) ...QTY 2

Cap Screw M3 x 8mm  
(Part # CS3X8) ... QTY 2

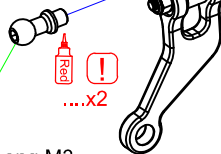
Ball Bearing 3 x 8 x 3mm  
(Part # BMR83ZZ) ... QTY 2

Lever FBL  
(Part # 100-0011) ...QTY 2

Cap Screw M3 x 10mm  
(Part # CS3X10) ...QTY 2

! Install first before adding levers

Linkage Ball Long M3  
(Part # 100-0010)



! Install first before adding levers

Cap Screw M3 x 10mm  
(Part # CS3X10) ...QTY 2

Cap Screw M3 x 8mm  
(Part # CS3X8) ... QTY 2

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Linkage Ball Long M3



...x2

Nut, Locking M2



...x2

Cap Screw M2 x 14mm



...x2

Cap Screw M3 x 8mm



...x2

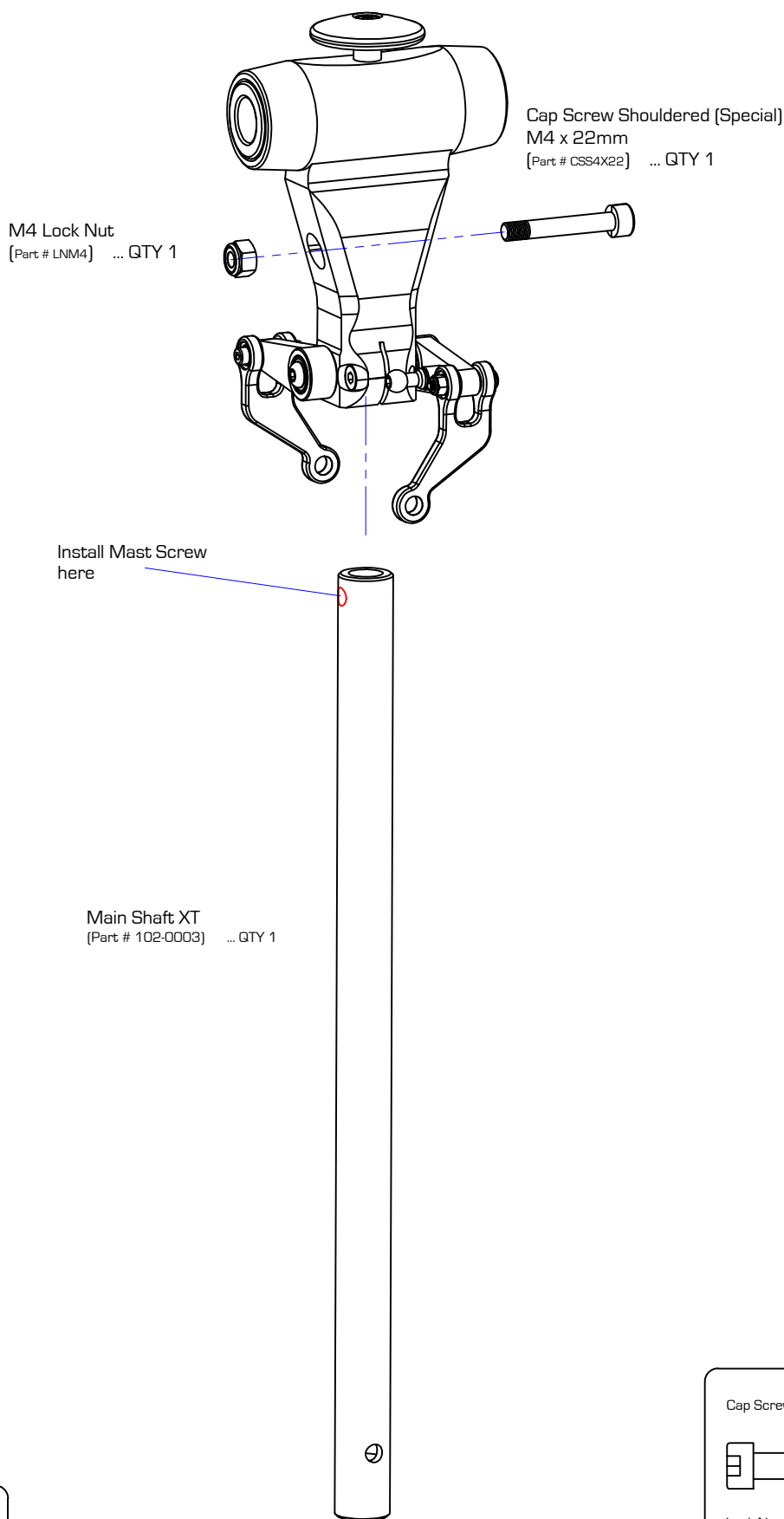
Cap Screw M3 x 10mm





...x3



# Flybarless Head

Bag 1

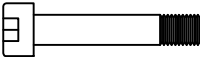


Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



 

Cap Screw Shouldered M4 x 22mm

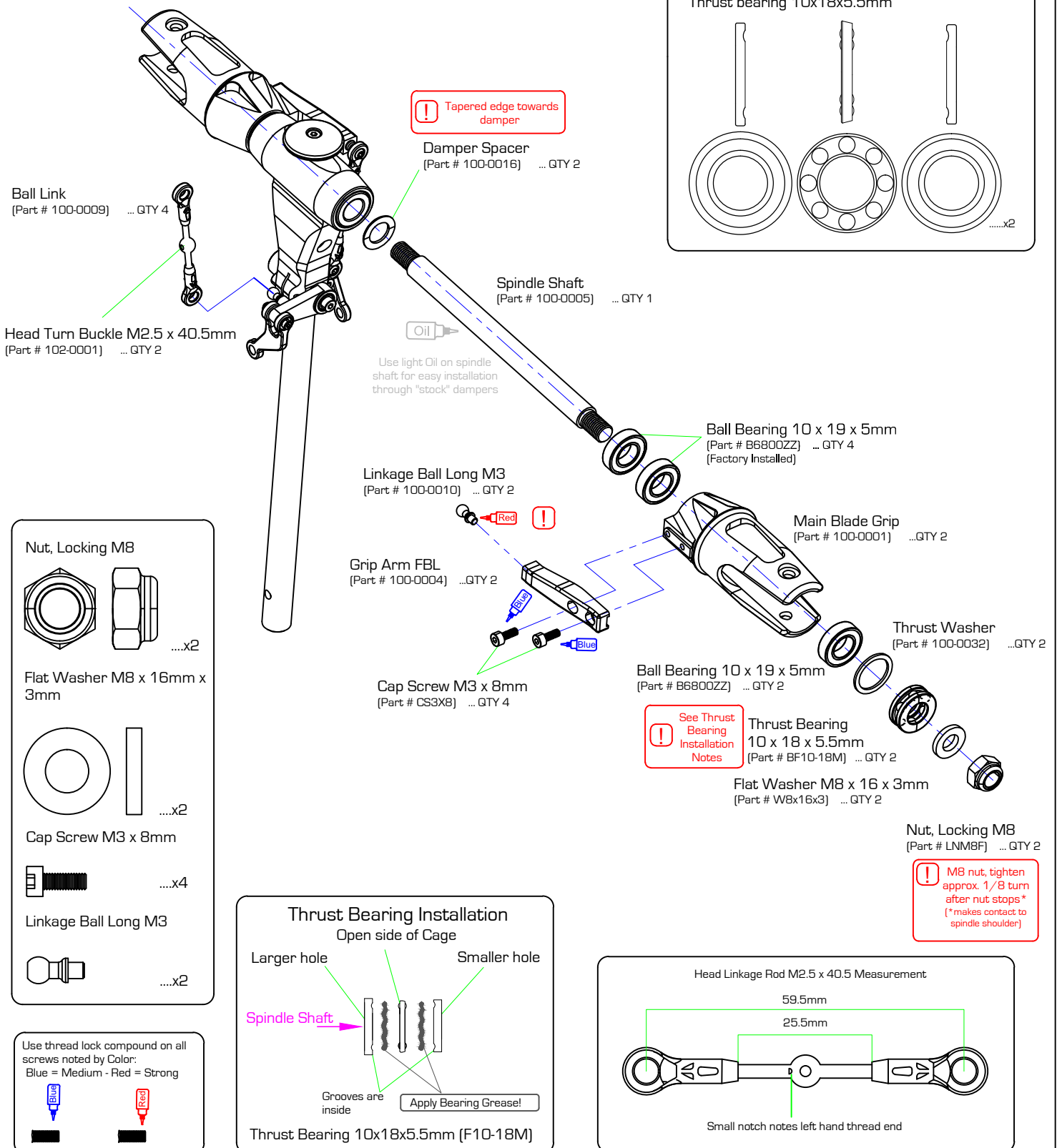
 ...x1

Lock Nut M4

  ...x1

# Flybarless Head

Bag 2



Cap Screw M2 x 8mm



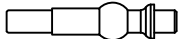
...x6

Linkage Ball Long M3



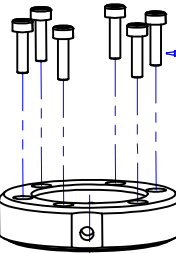
...x4

AR Ball Long M3



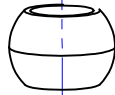
...x1

Cap Screw M2 x 8mm  
(Part # CS2X8) ... QTY 6

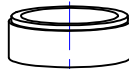


Swash Plate Upper Cup  
(Part # 100-0033) ... QTY 1

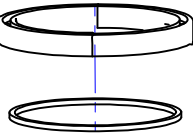
Pivot Ball  
(Part # 100-0036) ... QTY 1



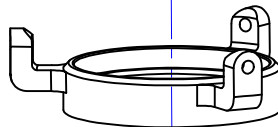
Pivot Race  
(Part # 100-0037) ... QTY 1



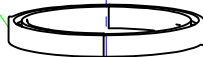
Bearing Spacer  
(Part # 100-0038) ... QTY 1



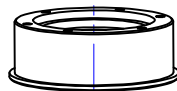
Ball Bearing  
(Part # B6706ZZ) ... QTY 2  
(Factory Installed)



Swash Plate Lower Cup  
(Part # 100-0034) ... QTY 1



Pivot Stand  
(Part # 100-0035) ... QTY 1



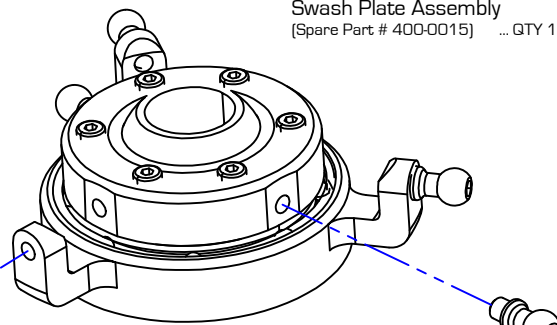
# Flybarless Head

Bag 2  
(Continued)

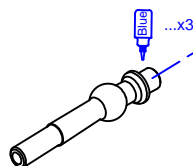
## Swash Plate

⚠ Note screw pattern in swash plate requires special alignment in order to be assembled

Swash Plate Assembly  
(Spare Part # 400-0015) ... QTY 1



AR Ball  
(Part # 101-0013) ... QTY 1



⚠ Red ...x2

Linkage Ball Long M3  
(Part # 100-0010) ... QTY 4  
x2 - Lower Cup  
x2 - Upper Cup

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



# Battery Tray



Bag 3 and 6

Tray Center Spacer  
(Part # 201-0012) ...QTY 14

Set Screw  
M3 x 12mm  
(Part # SS3X12) ...QTY 7

CF Battery Tray Matte Finish  
(Part # 202-0044) ...QTY 1

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

Set Screw M3 x 12mm

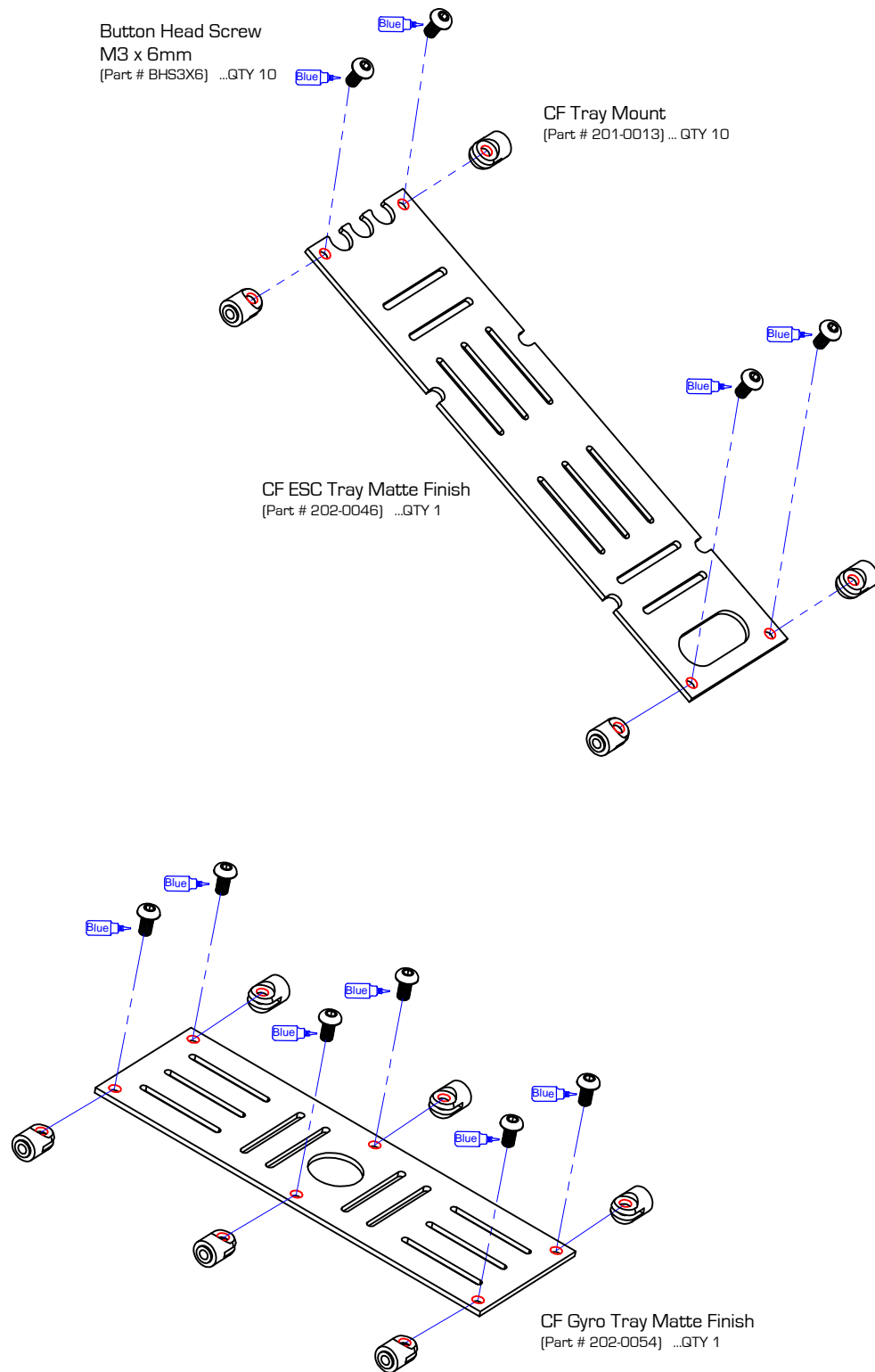


...x7



# Tray Assemblies

Bag 3 and 6



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw M3 x 6mm

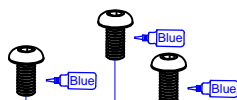


.....x10

# Bearing Assemblies

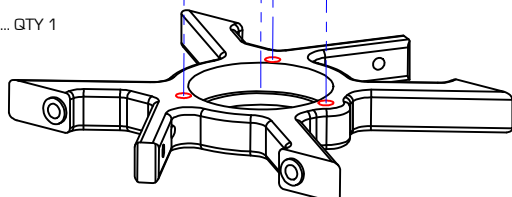
Bag 3

Button Head Screw  
M3 x 6mm  
(Part # BHS3X6) ...QTY 3

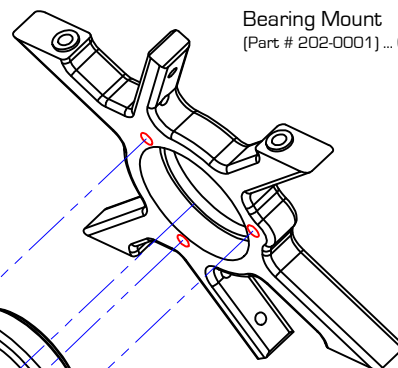


Ball Bearing 12 x 24 x 6mm  
(Part # B6901ZZ) ... QTY 1  
(Factory Installed)

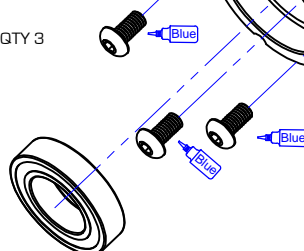
Bearing Mount  
(Part # 202-0001) ... QTY 1



Bearing Mount  
(Part # 202-0001) ... QTY 1



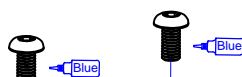
Button Head Screw  
M3 x 6mm  
(Part # BHS3X6) ...QTY 3



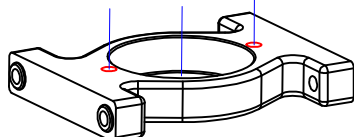
Bearing Insert  
(Part # 202-0002) ... QTY 1

Ball Bearing 12 x 21 x 5mm  
(Part # B6801ZZ) ... QTY 1  
(Factory Installed)

Button Head Screw  
M3 x 6mm  
(Part # BHS3X6) ...QTY 2



Ball Bearing 12 x 24 x 6mm  
(Part # B6901ZZ) ... QTY 1  
(Factory Installed)

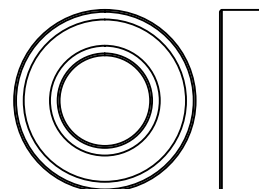


Bearing Block  
(Part # 200-0003) ... QTY 1

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

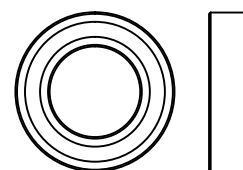


Ball Bearing 12 x 24 x 6mm



.....x2

Ball Bearing 12 x 21 x 5mm



.....x1

Button Head Screw M3 x 6mm



.....x8

# Boom Mount Assembly

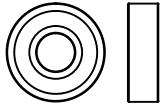
Bag 4

Cap Screw M3 x 6mm



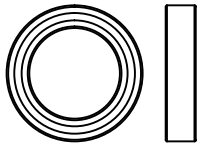
.....x4

Ball Bearing 5 x 13 x 4mm



.....x2

Ball Bearing 12 x 18 x 4mm



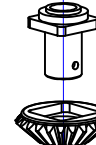
.....x2

Set Screw Extended M3 x 20mm  
(Part # 202-0030) ...QTY 2



Do not over tighten!

Bevel Gear Short 24T CNC  
(Part # 302-0001-A & B) ...QTY 1  
Not Compatible with injection gear



Use CA or Epoxy to secure parts A & B as 1 piece

Pin, 2mm OD  
(Part # 202-0029) ...QTY 2



Larger OD end up

Counter Gear Shaft  
(Part # 202-0020) ...QTY 1



Center pins within gears and lock into position with extended set screws

Smaller OD end down

Counter Gear 23T CNC  
(Part # 202-0019) ...QTY 1



Do not over tighten!

Cap Screw M3 x 6mm  
(Part # CS3X6) ...QTY 4



Counter Shaft Bearing Top Mount  
(Part # 200-0059-T) ...QTY 1



Note: Top Mount has 2 M3 Threaded holes

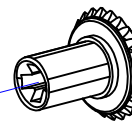
Ball Bearing 5 x 13 x 4mm  
(Part # B695ZZ) ...QTY 2 (Factory Installed)



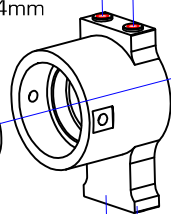
Ball Bearing 12 x 18 x 4mm  
(Part # B6701ZZS) ...QTY 2



Bevel Gear Long 24T CNC  
(Part # 302-0002) ...QTY 1  
Not Compatible with injection gear



Boom Mount Front  
(Part # 200-0058) ...QTY 1



Bearing Spacer  
(Part # 300-0022) ...QTY 1



Counter Shaft Bearing Bottom Mount  
(Part # 200-0059-B) ...QTY 1

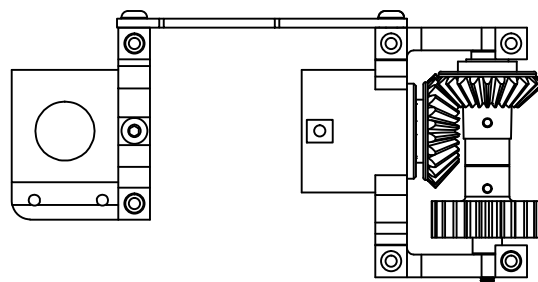
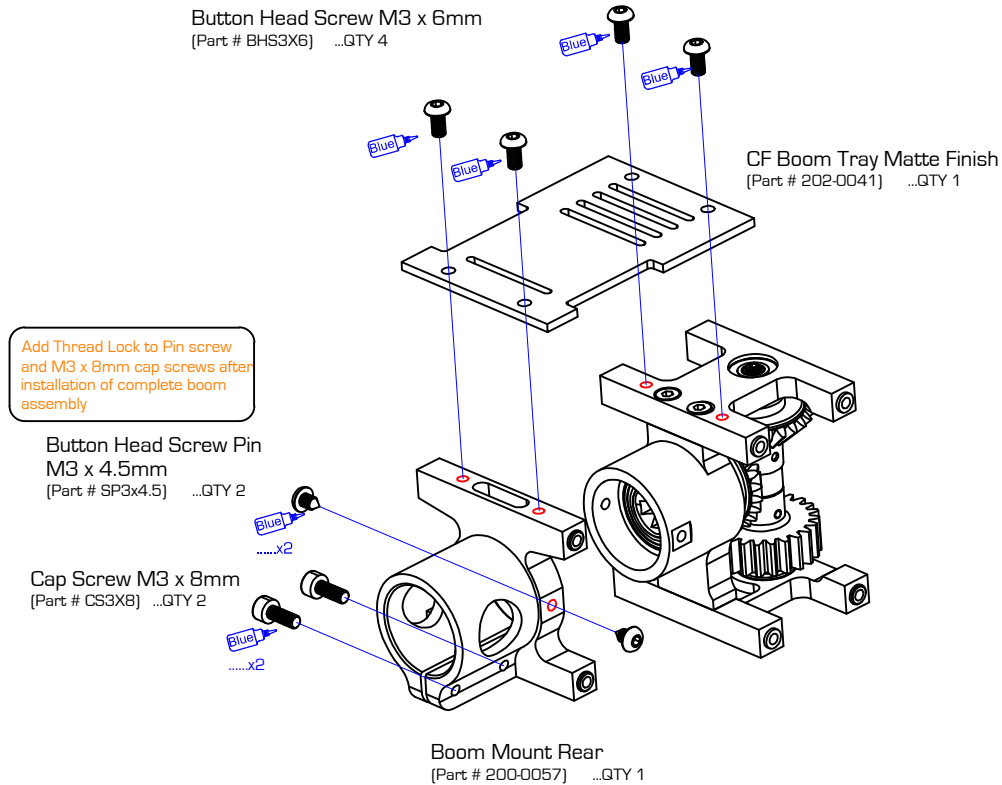


Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



# Boom Mount Assembly

Bag 4 and 6



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw Pin M3 x 4.5mm



.....x2

Button Head Screw M3 x 6mm



.....x4

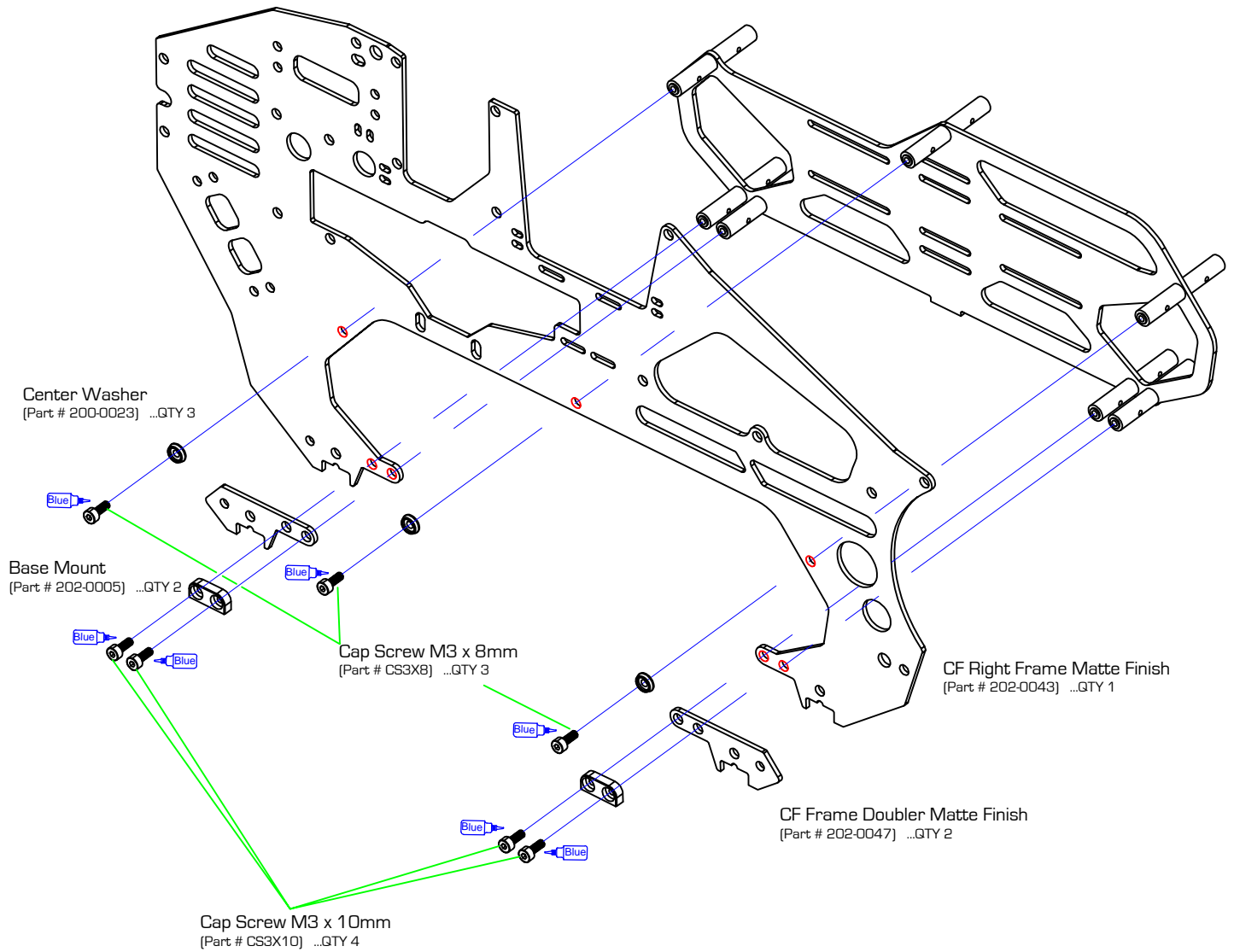
Cap Screw M3 x 8mm



.....x2

# Frame Assembly

Bag 5 and 6



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Cap Screw M3 x 8mm



.....x3

Cap Screw M3 x 10mm

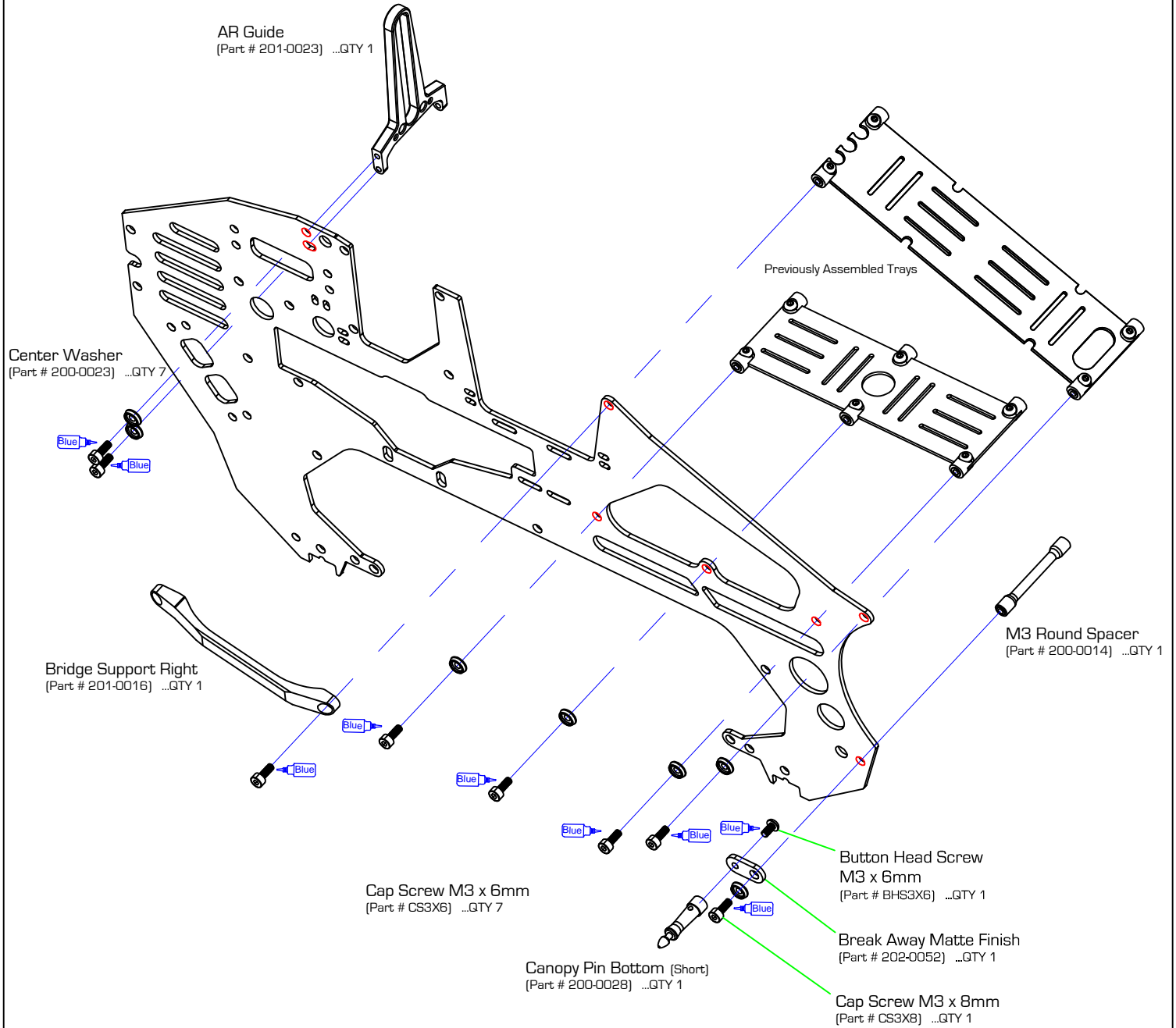


.....x4

# Frame Assembly

Bag 5 and 6

Previously assembled items not shown for clarity



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw M3 x 6mm



.....x1

Cap Screw M3 x 6mm



.....x7

Cap Screw M3 x 8mm

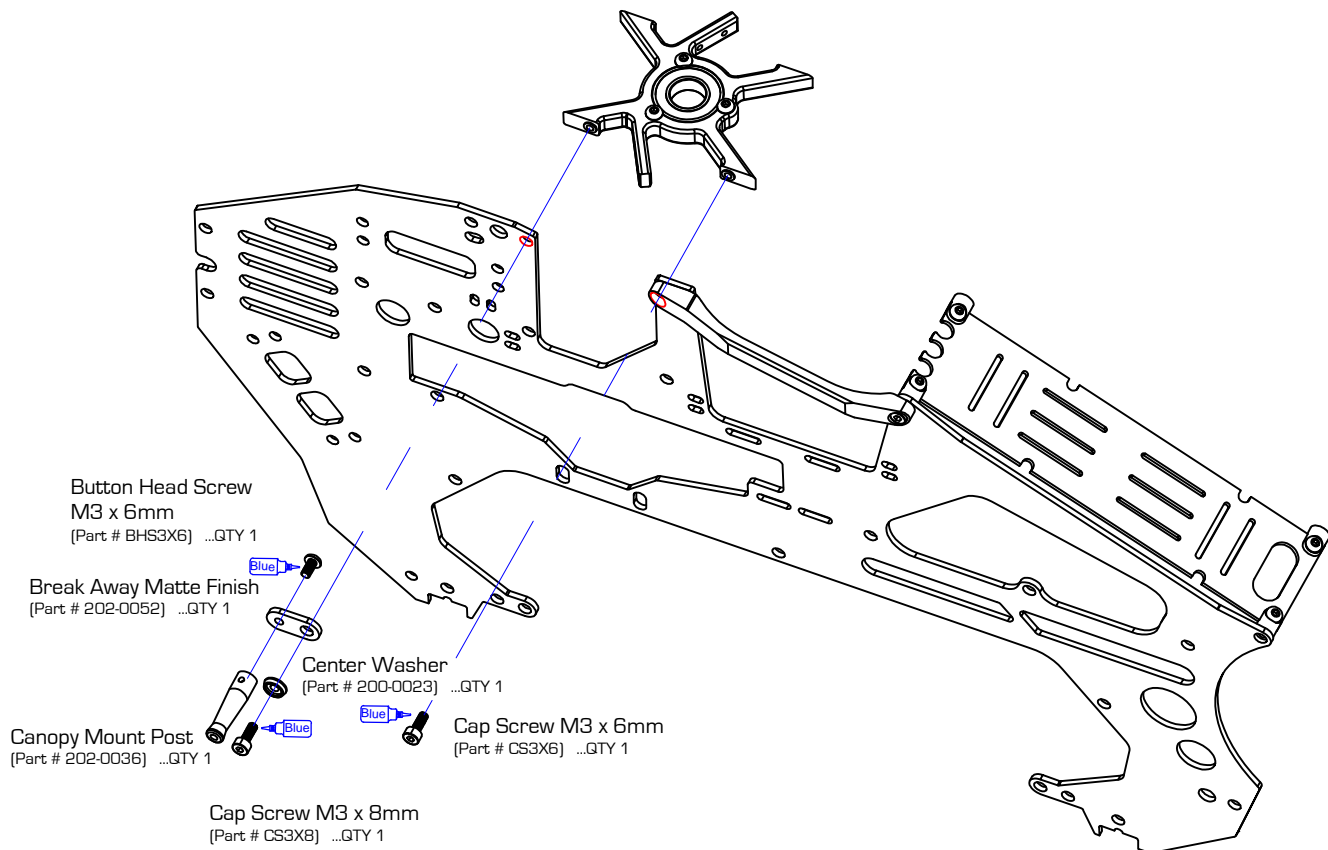


.....x1

# Frame Assembly

Bag 5 and 6

Previously assembled  
items not shown for  
clarity



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw M3 x 6mm



.....x1

Cap Screw M3 x 6mm



.....x1

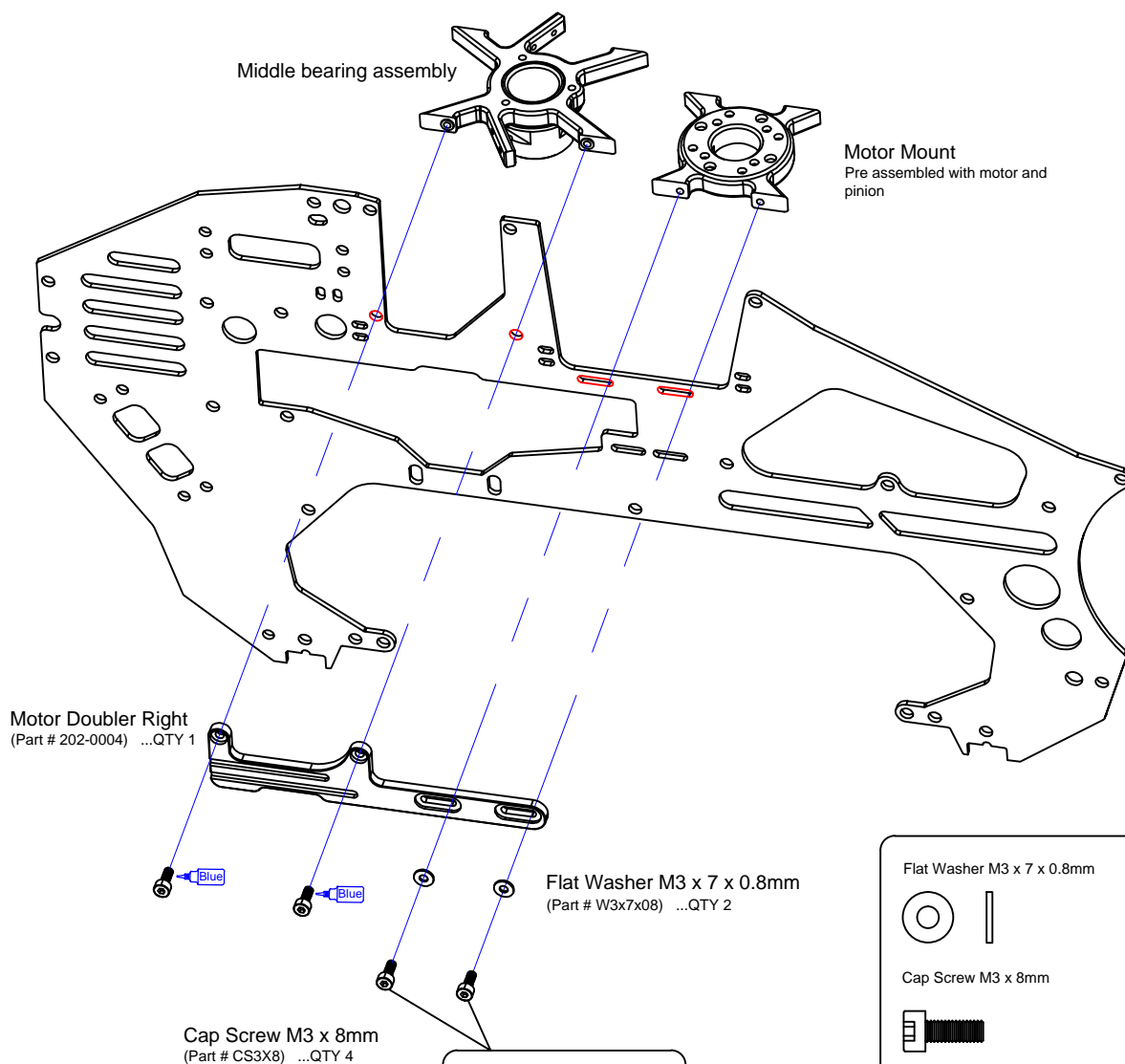
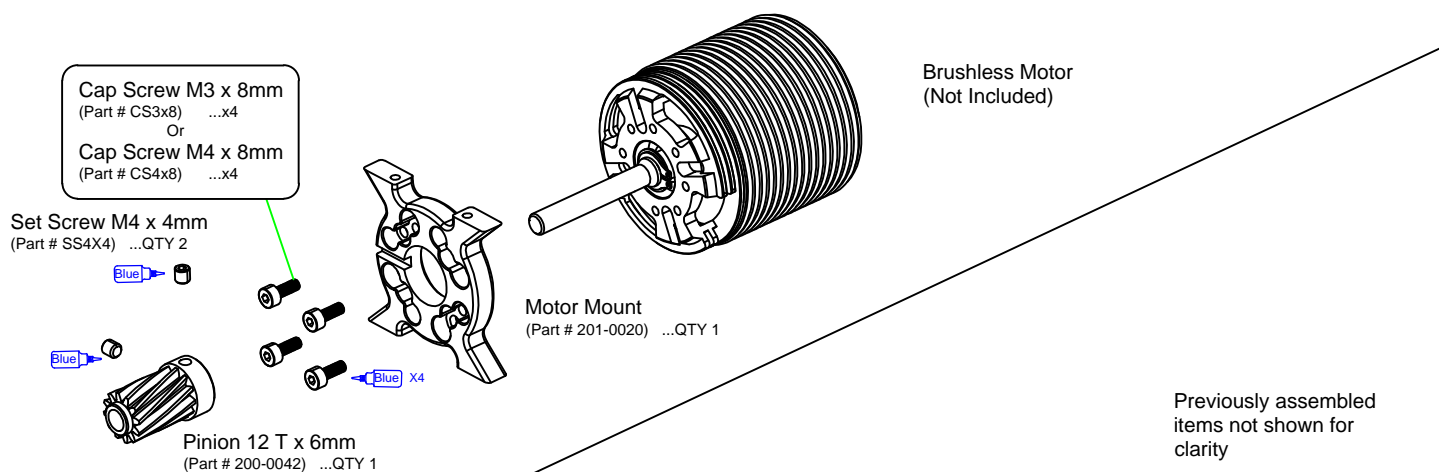
Cap Screw M3 x 8mm



.....x1

# Frame Assembly

Bag 5



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

Note: At this time do not apply thread lock to screws. Temporarily install

Flat Washer M3 x 7 x 0.8mm



.....x2

Cap Screw M3 x 8mm



.....x8

Cap Screw M4 x 8mm



.....x4

Set Screw M4 x 4mm



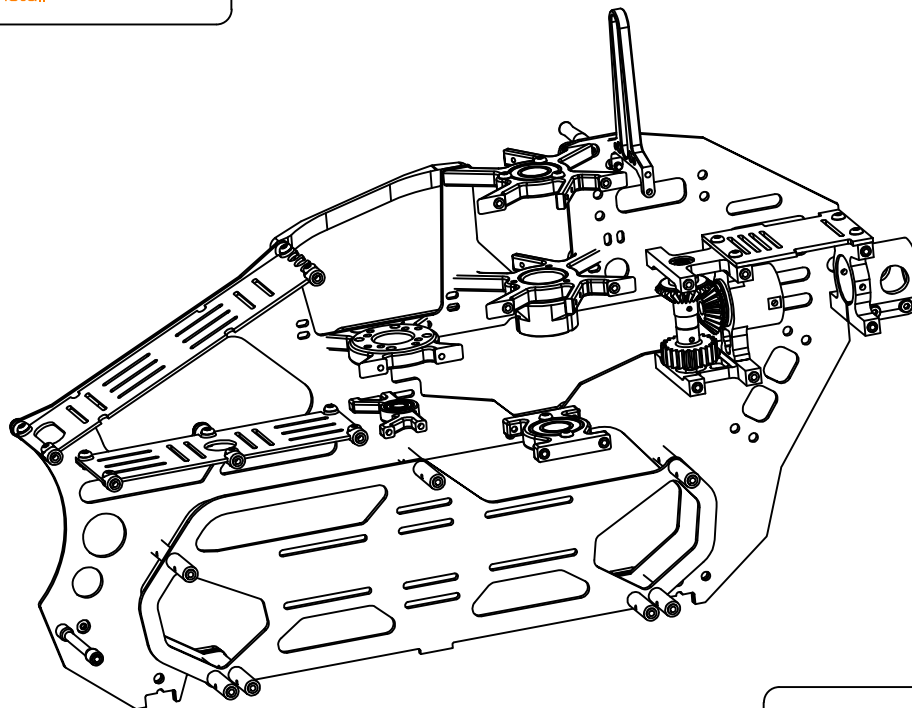
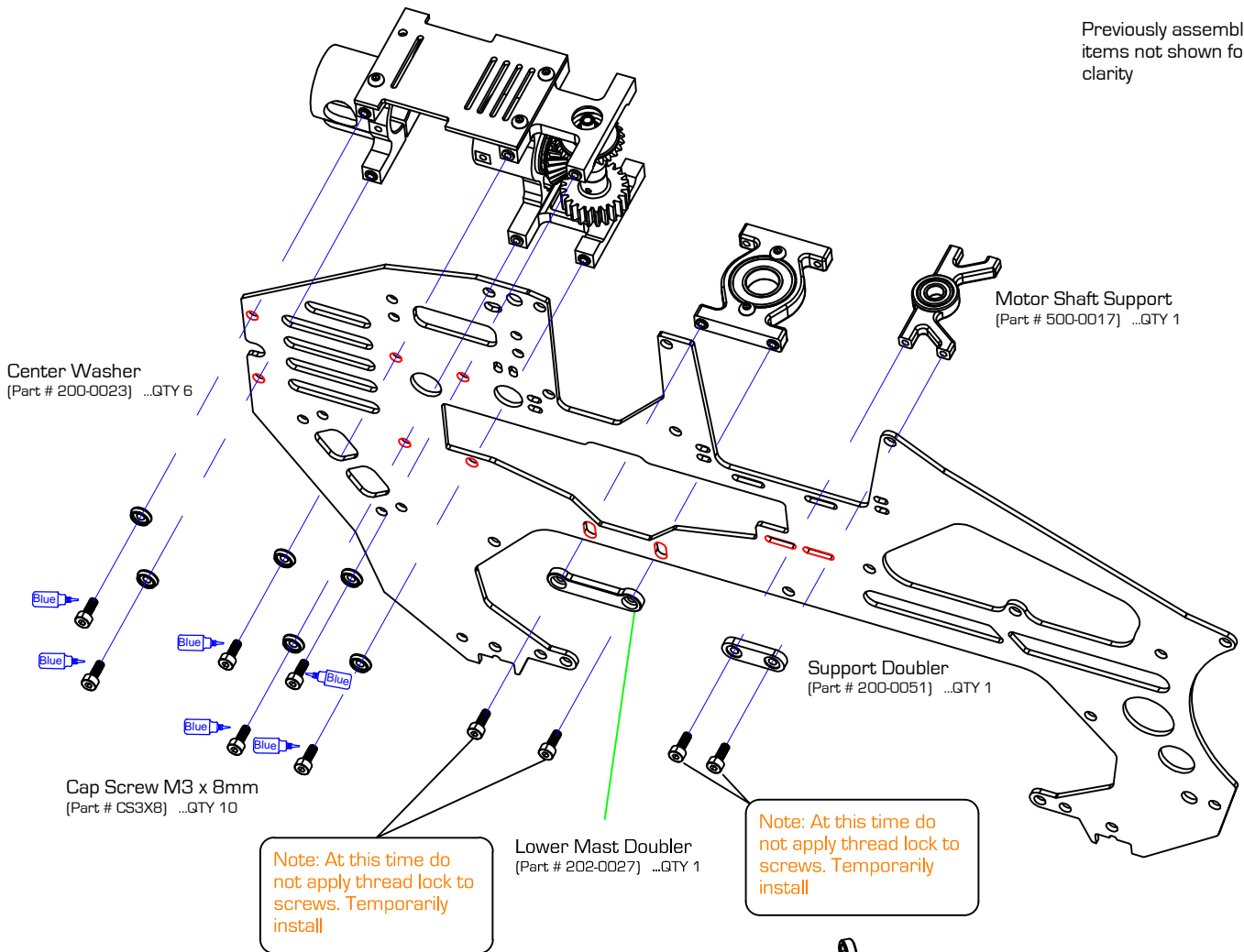
.....x2



# Frame Assembly

Bag 5

Previously assembled  
items not shown for  
clarity



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



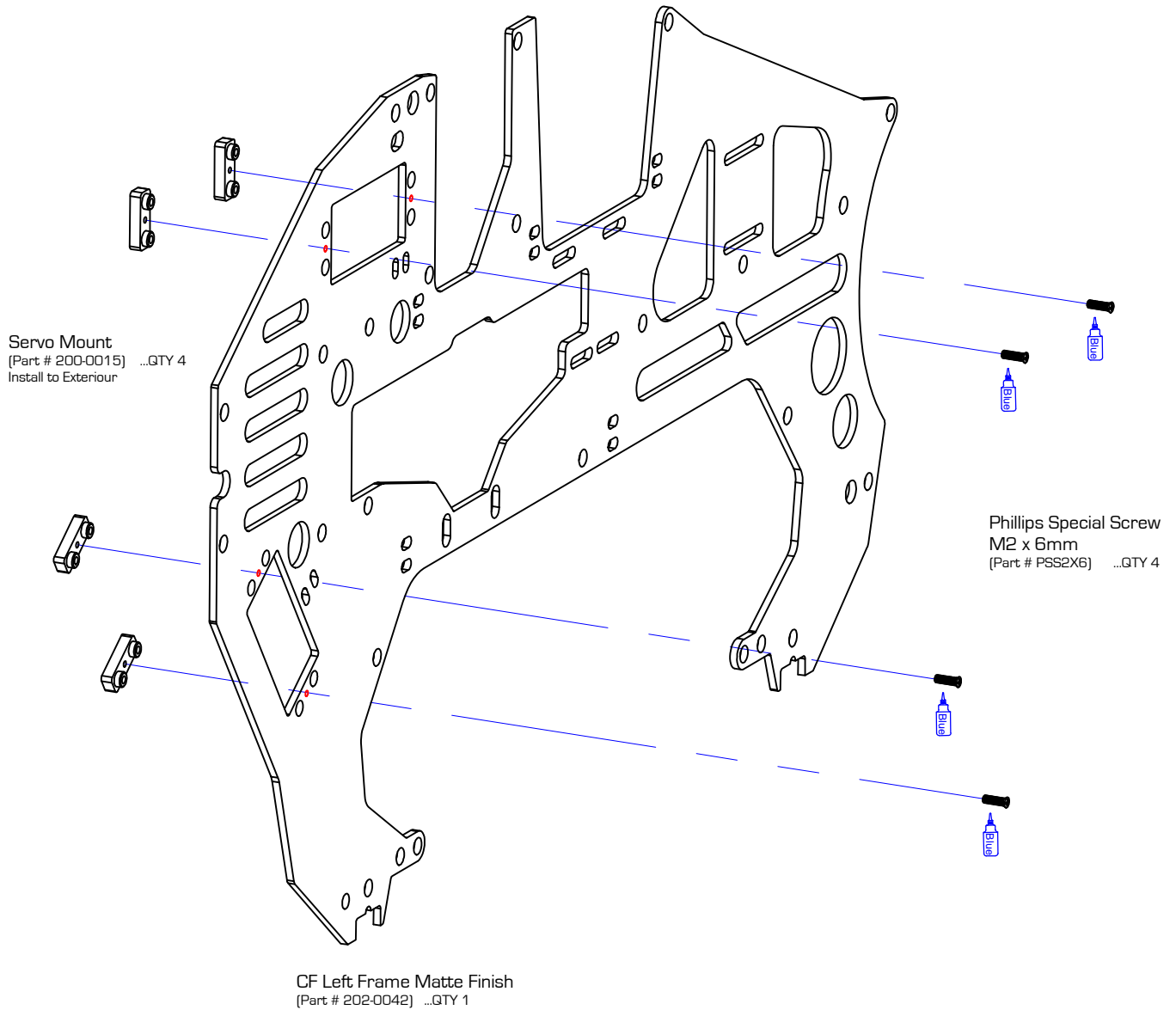
Cap Screw M3 x 8mm



.....x10

# Frame Assembly

Bag 5



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Special Phillips Screw

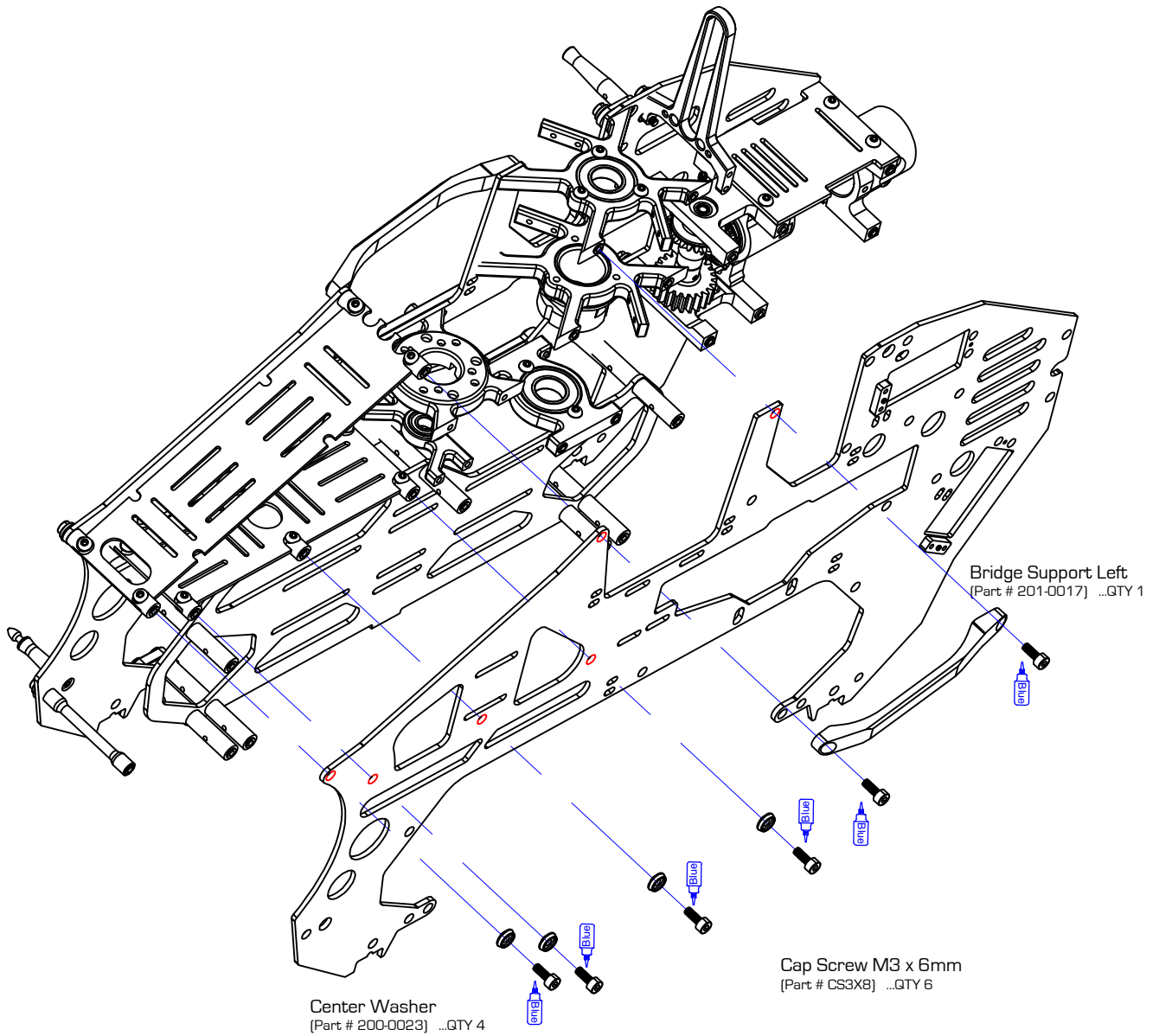


.....x 4

# Frame Assembly

Bag 5

Previously assembled  
items not shown for  
clarity



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Cap Screw M3 x 6mm

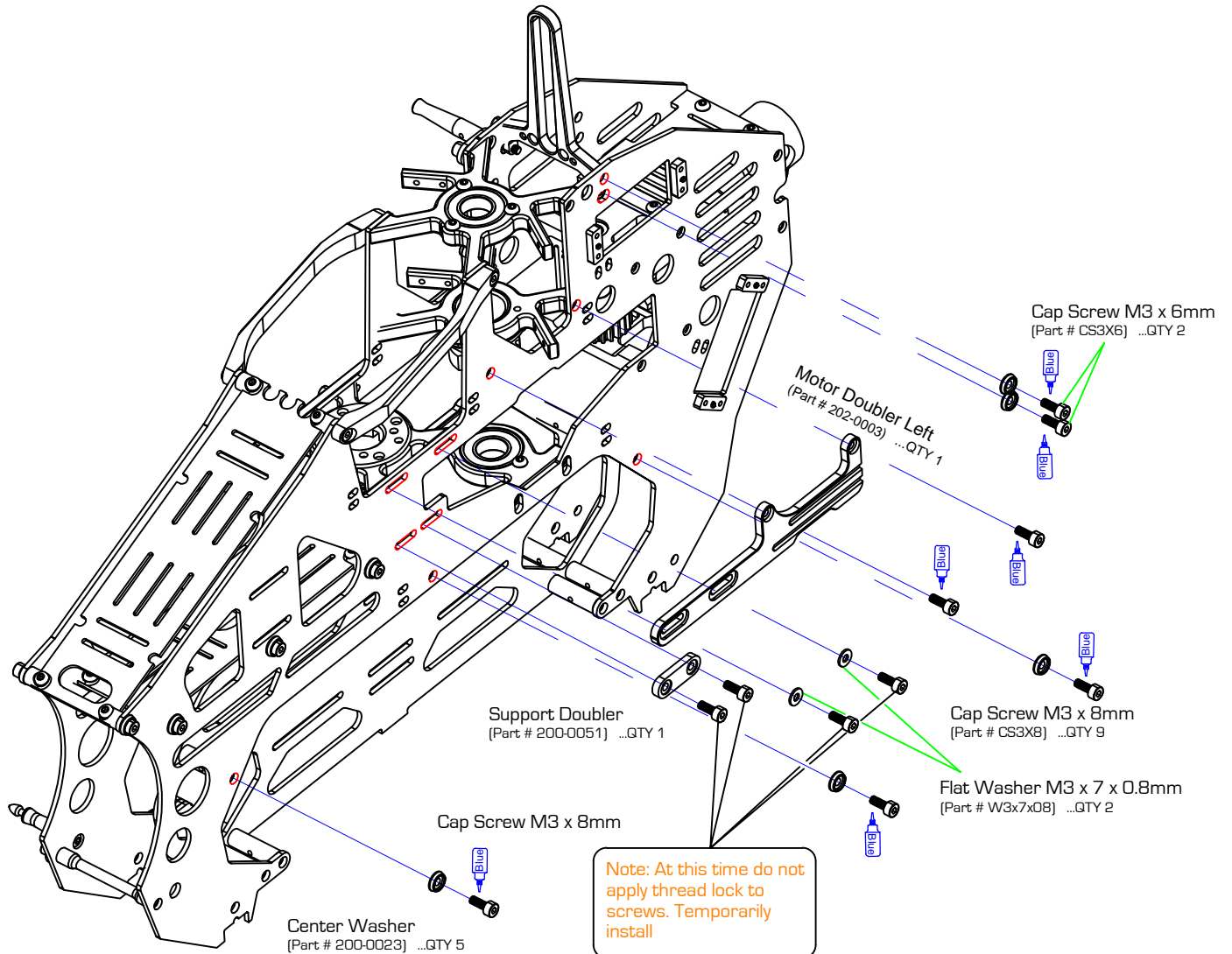


.....x6

# Frame Assembly

Bag 5

Previously assembled items not shown for clarity



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Cap Screw M3 x 6mm



.....x 2

Cap Screw M3 x 8mm

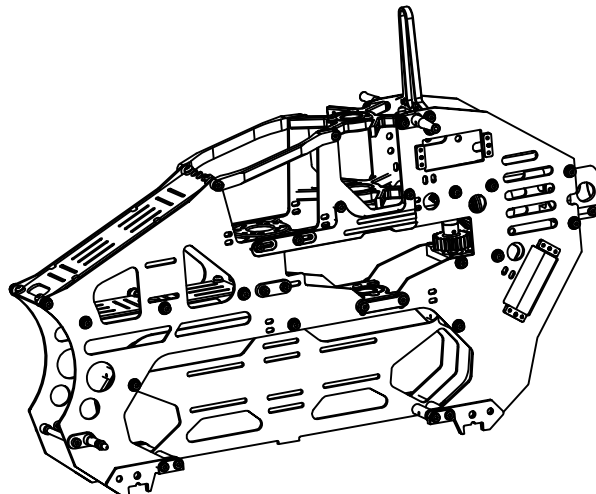
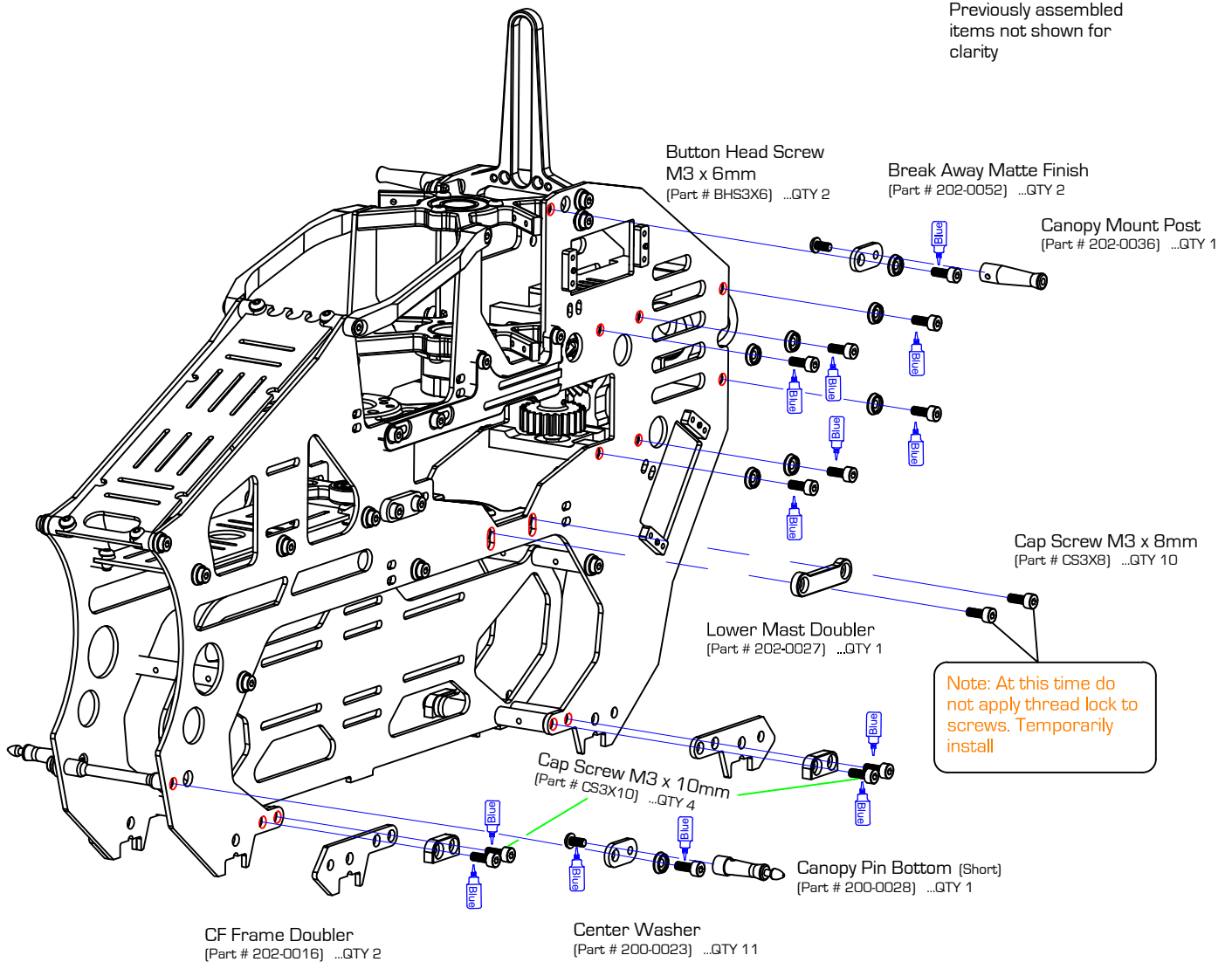


.....x 9

# Frame Assembly

Bag 5 and 6

Previously assembled items not shown for clarity



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

Button Head Screw M3 x 6mm



.....x2

Cap Screw M3 x 8mm



.....x10

Cap Screw M3 x 10mm



.....x4

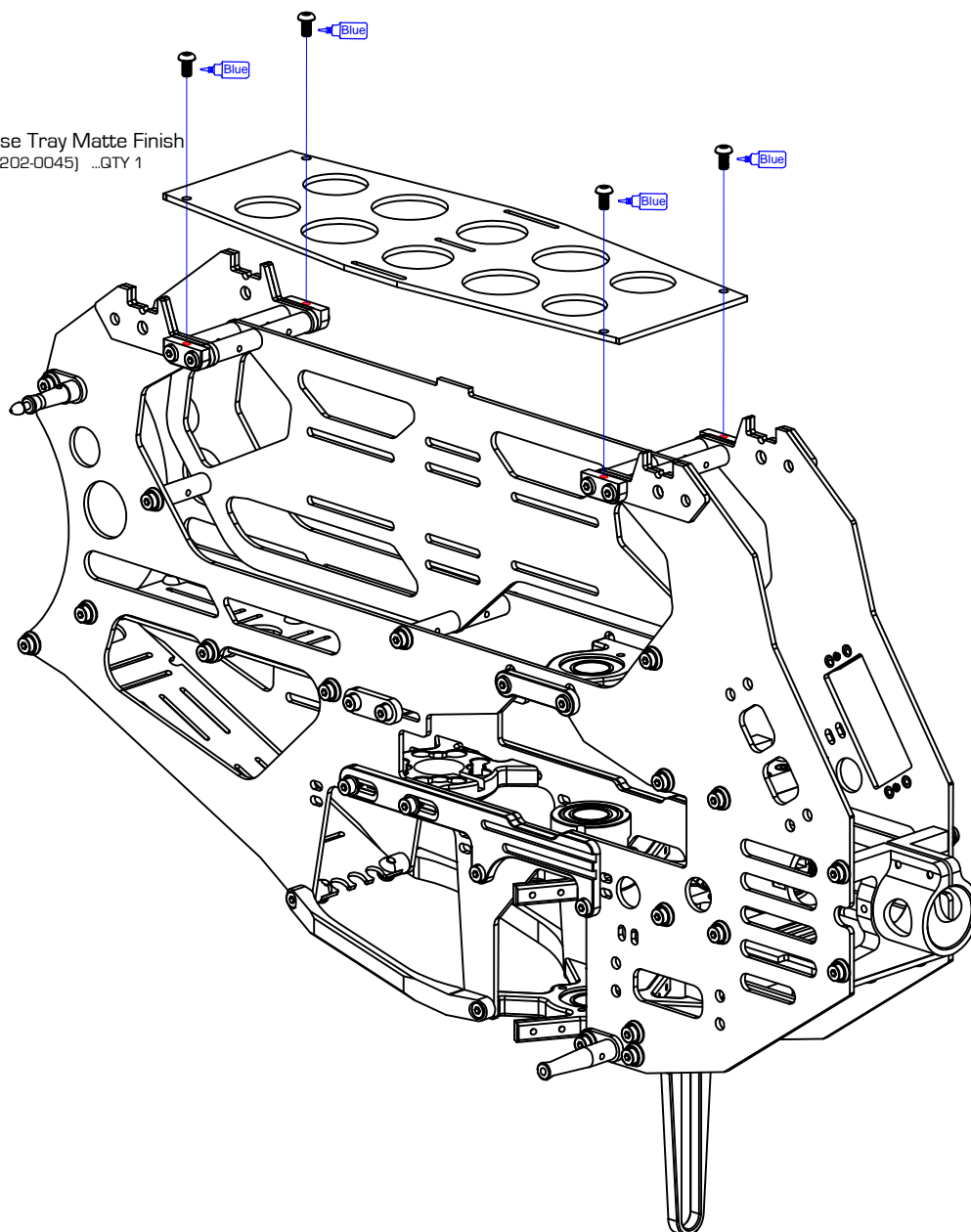
# Frame Assembly

Bag 5 and 6

Previously assembled  
items not shown for  
clarity

Button Head Screw  
M3 x 6mm  
(Part # BHS3X6) ...QTY 4

CF Base Tray Matte Finish  
(Part # 202-0045) ...QTY 1



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw M3 x 6mm



.....x4

# CF Skid Assembly

Bag 6 and 7

Button Head Screw  
M3 x 10mm  
(Part # BHS3X10) ...QTY 8

CF Skid Doubler Front  
Matte Finish  
(Part # 202-0049) ...QTY 2

CF Skid Mount Evo  
(Part # 202-0035) ...QTY 2

CF Skid Doubler Back  
Matte Finish  
(Part # 202-0050) ...QTY 2

CF Skid Plate Matte Finish  
(Part # 202-0048) ...QTY 2

Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong

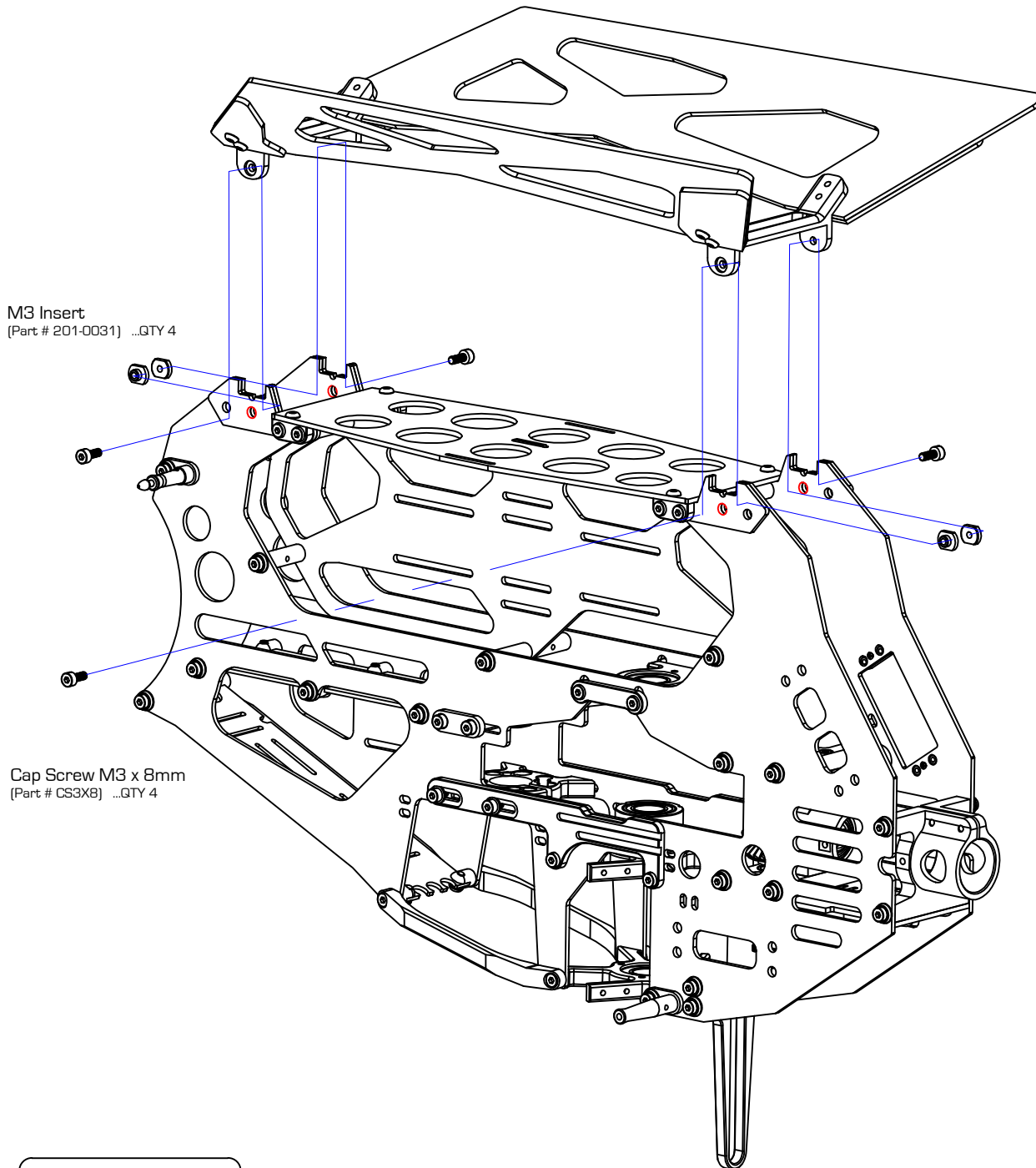
Button Head Screw M3 x 10mm

.....x8

# Frame Assembly

Bag 7

Previously assembled  
items not shown for  
clarity



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



Cap Screw M3 x 8mm



.....x 4



# Servo Installation

Bag 7

Servo linkage ball spacing  
17-18mm approx. for cyclic  
servos on most Flybarless  
Gyro systems



! Recommend heavy duty  
or aluminum single sided  
servo arms

Cap Screw M2.5 x 10mm  
(Part # CS2.5X10) ... QTY 16

Metal Gear  
Servos and  
Arms  
(Not Provided)

CF Servo Keeper Matte Finish  
(Part # 202-0053) ... QTY 8

M2 Nut  
(Part # NM2) ... QTY 4

Linkage Ball M2  
(Part # 200-0054) ... QTY 4

Repeat install process  
for second aileron servo

Cap Screw M2.5 x 10mm



.....x16

M2 Linkage Ball



.....x4

M2 Nut



.....x4

Repeat install process  
for Elevator and Tail  
servo

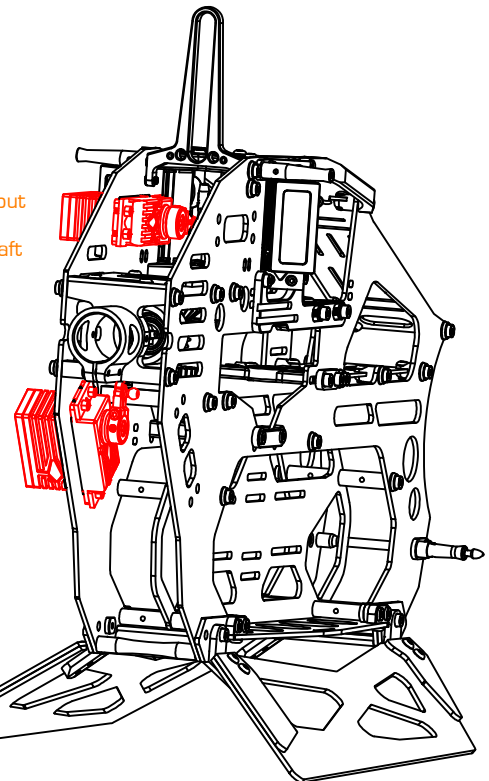
Elevator servo output  
shaft to be located  
closest to main shaft

Tail servo output shaft to  
be located closest to  
Boom Mount

Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong

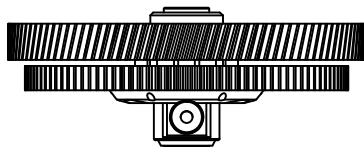
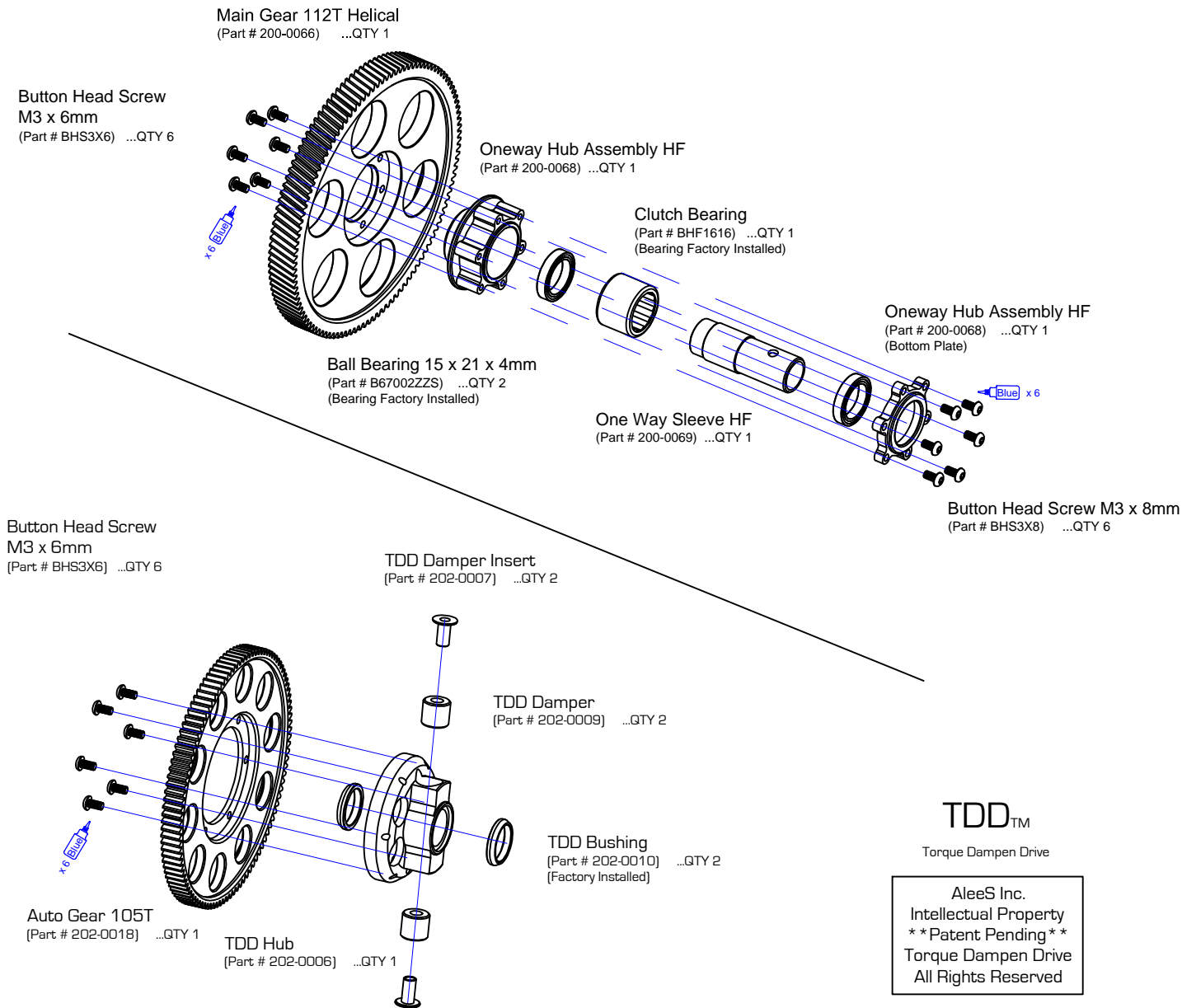
Blue

Red



# Main Drive Assembly

Bag 8



Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



Button Head Screw M3 x 6mm



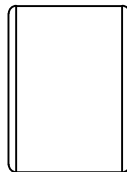
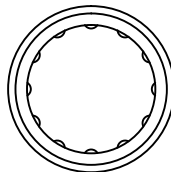
.....x12

Button Head Screw M3 x 8mm



.....x6

Clutch Bearing



.....x1

# Head Installation

Bag 8

Ball Bearing 3 x 8 x 3mm



....x2

Washer M2 x 5 x 0.5mm



....x1

Washer M2.5 x 7 x 0.5mm



....x2

Cap Screw M2 x 4mm

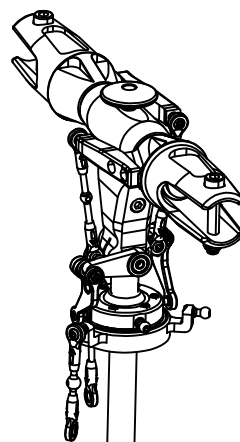


....x1

Cap Screw M2.5 x 6mm



....x4



Elevator Turnbuckle M2.5 x 42mm  
(Part# 101-0015) ... QTY 1

Aileron Turnbuckle M2.5 x 31mm  
(Part# 101-0016) ... QTY 2

Ball Link  
(Part# 100-0009) ... QTY 6

Install M4 Cap screw here !

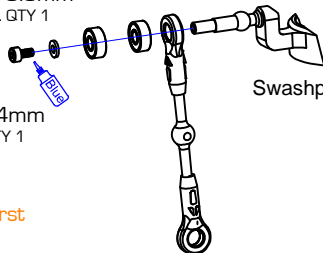
Ball Bearing 3 x 8 x 3mm  
(Part # BMR83ZZ) ... QTY 2

Washer M2 x 5 x 0.5mm  
(Part # W2x5x05) ... QTY 1

Cap Screw M2 x 4mm  
(Part # CS2x4) ... QTY 1

Swashplate

Install assembled  
elevator linkage first



TDD Lower Mast Pin  
(Part # 202-0008) ... QTY 1



Shaft Retainer  
(Part # 200-0024) ... QTY 1

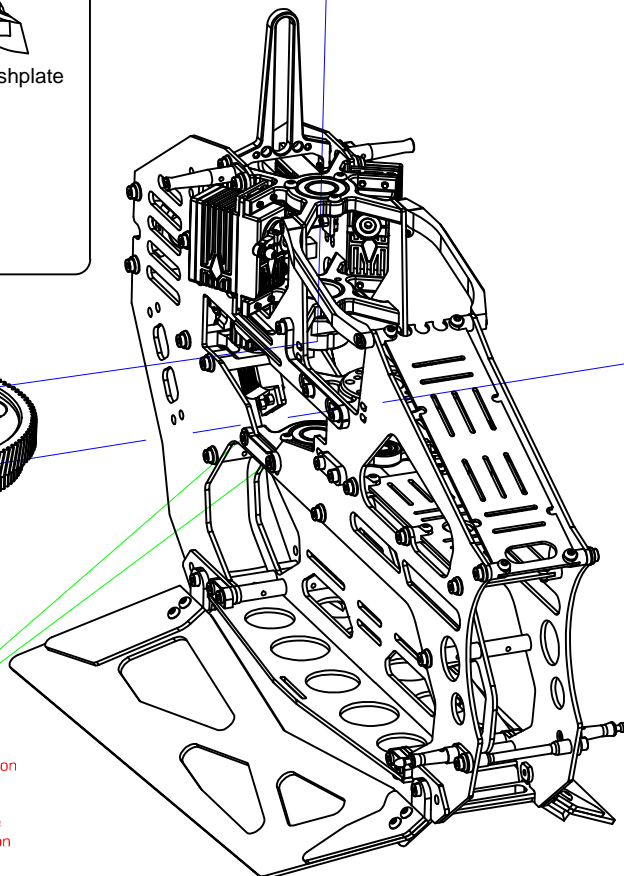


! Shaft Retainer Screw is to be installed After lower mast pin is installed, and Removed first before main shaft removal.

! Collarless main shaft retention is achieved by the lower bearing block sliding up/down once shaft retainer screw is installed into the bottom of the main shaft, pull up on rotor head assembly to remove excess play in main shaft up/down and tighten all (4) M3 cap screws in lower bearing block

Cap Screw M2.5 x 5mm  
(Part # CS2.5x5) ... QTY 2

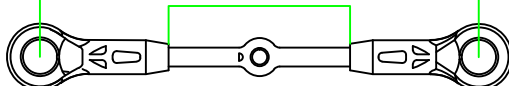
Washer M2.5 x 7 x 0.5mm  
(Part # W25x7x05) ... QTY 2



Elevator Linkage Rod M2.5 x 42mm Measurement

58.25 mm [Approx.]

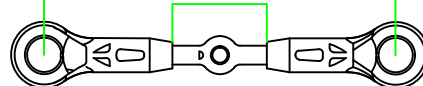
24.25 mm [Approx.]



Aileron Linkage Rod M2.5 x 31mm Measurement

46.5 mm [Approx.]

12.5 mm [Approx.]



# Tail System

Bag 9

Button Head Screw M3 x 6mm  
(Part # BHS3X6) ... QTY 4

Ball Bearing 6 x 12 x 4mm  
(Part # BMR126ZZ) ... QTY 2  
(Factory Installed)

Tail Shaft Bevel Gear Set  
(Part # 600-0015) ... QTY 1  
*Not compatible with cnc gears*

Plate Spacer  
(Part # 300-0004) ... QTY 1

Ball Bearing 12 x 18 x 4mm  
(Part # B6701ZZS) ... QTY 2

Bearing Spacer  
(Part # 300-0022) ... QTY 1

Tail Plate Left  
(Part # 300-0002) ... QTY 1

Tail Case Hub  
(Part # 300-0001) ... QTY 1

Tail Plate Right  
(Part # 300-0003) ... QTY 1

Arm Support  
(Part # 300-0005) ... QTY 1

Button Head Screw M3 x 10mm  
(Part # BHS3X10) ... QTY 2

Button Head Screw M3 x 6mm



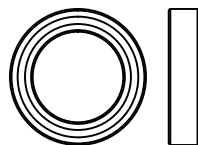
.....x4

Button Head Screw M3 x 10mm



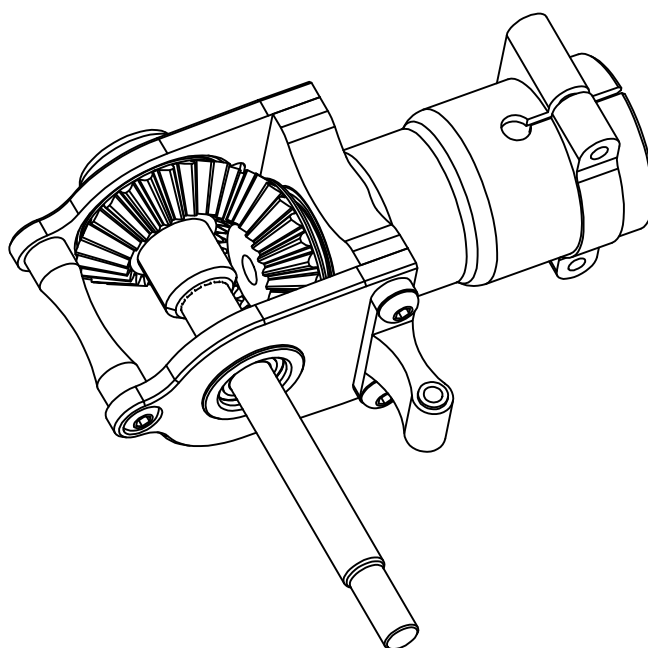
.....x2

Ball Bearing 12 x 18 x 4mm



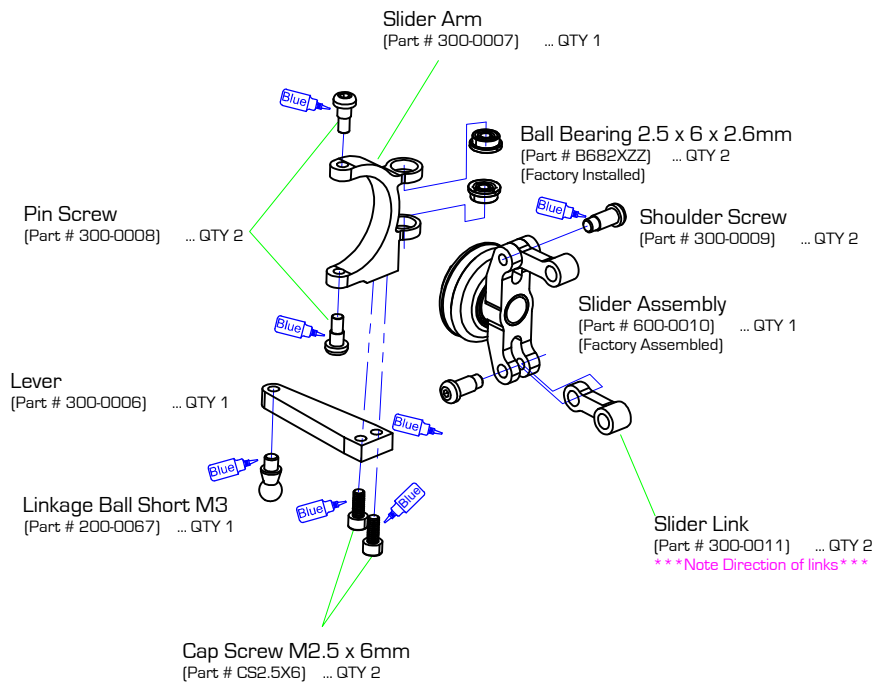
.....x2

Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



# Tail System

Bag 9



## Linkage Ball Short M3



....x1

## Flanged Bearing 2.5 x 6 x 2.6mm



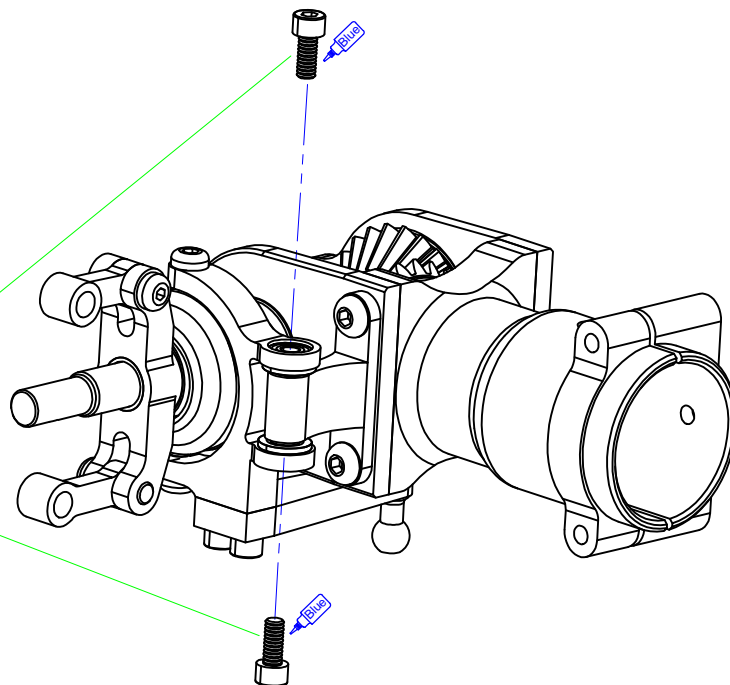
....x2

## Cap Screw M2.5 x 6mm



....x4

Cap Screw M2.5 x 6mm  
(Part # CS2.5X6) ... QTY 2

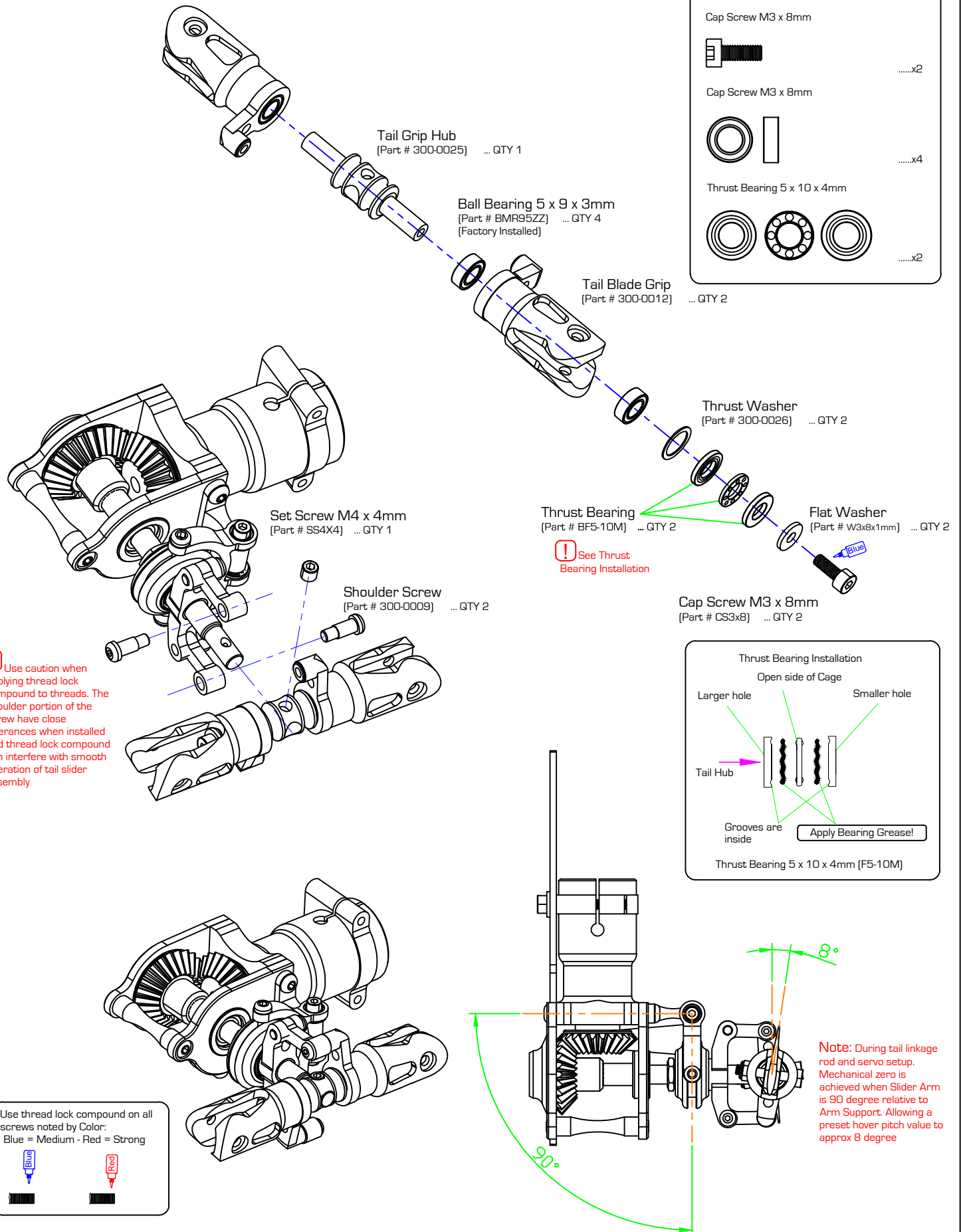


Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



# Tail System

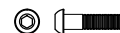
Bag 9



# Tail Linkage Rod

Bag 10

Self Tapping Cap Screw M2x8mm



.....x4

Ball Link  
(Part # 100-0009) ... QTY 2

Rod Guide  
(Part # 300-0016) ... QTY 4

Self Tapping Screw  
M2 x 8mm  
(Part # STHSS2x8) ... QTY 4

Tail Linkage Rod  
(Part # 300-0015) ... QTY 1

**!** Partially Install Self-Tapping  
Screws once in place after install  
onto Boom then tighten until Rod  
guide will no longer move (do not  
over tighten)

Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



\*\*\*Tail Linkage Rod Measurement\*\*\*

801 mm (Approx.)

767 mm (Approx.)



# Torque Tube Shaft

Bag 10

Cap Screw M2x12mm



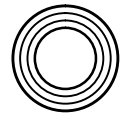
....x2

M2.5 Nut, Locking



....x2

Ball Bearing 8 x 14 x 4mm



....x4

This end toward tail rotor assembly

Approx. Ball Bearing position 22mm

Approx. Ball Bearing position 250mm

Approx. Ball Bearing position 230mm

Approx. Ball Bearing position 22mm

! Use CA or Epoxy to secure all (4) Ball Bearings at set positions

TT Shaft  
(Part # 300-0020) ... QTY 1

M2.5 Nut, Locking  
(Part # LNM2.5) ... QTY 2

Cap Screw M2.5 x 12mm  
(Part # CS2.5x12) ... QTY 2

Ball Bearing 8 14 x 4mm  
(Part # BMR14BZZ) ... QTY 4 positions

Bearing Support  
(Part # 300-0019) ... QTY 4

TT Shaft Spline  
(Part # 300-0028) ... QTY 2

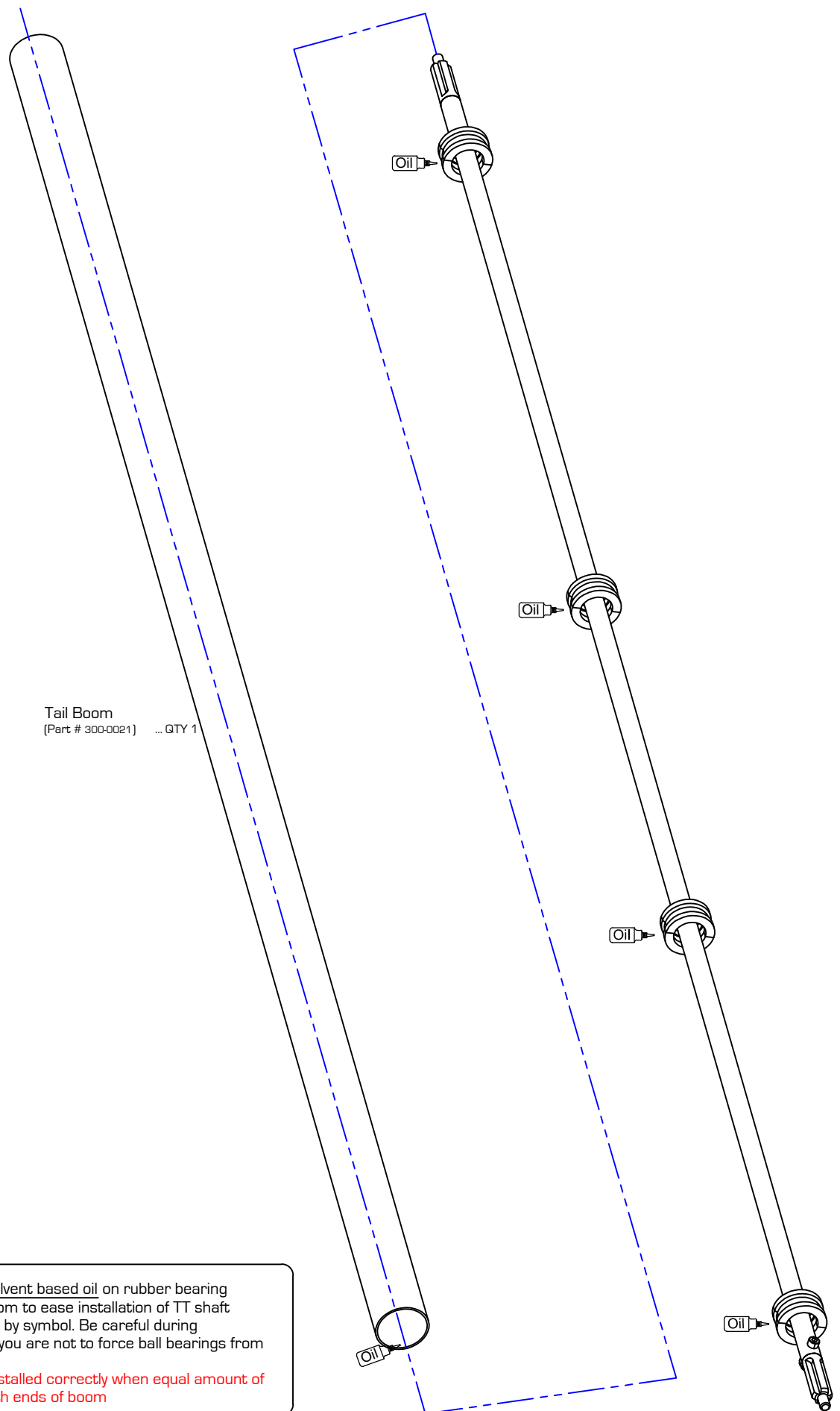
Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong






# Torque Tube Shaft

Bag 10



 Use a light Non-Solvent based oil on rubber bearing supports and inside tail boom to ease installation of TT shaft assembly. Areas are noted by symbol. Be careful during installation into boom that you are not to force ball bearings from rubber supports.

**Special Note:** TT shaft is installed correctly when equal amount of TT Spline extends from both ends of boom

# Tail Rod and Guides



Bag 10



Tail push rod and guides assembled

Boom and TT Shaft assembled

⚠ Leave all rod guide screws loose for easy installation and setup. Tightening screws will be covered at a later point in instructions.

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

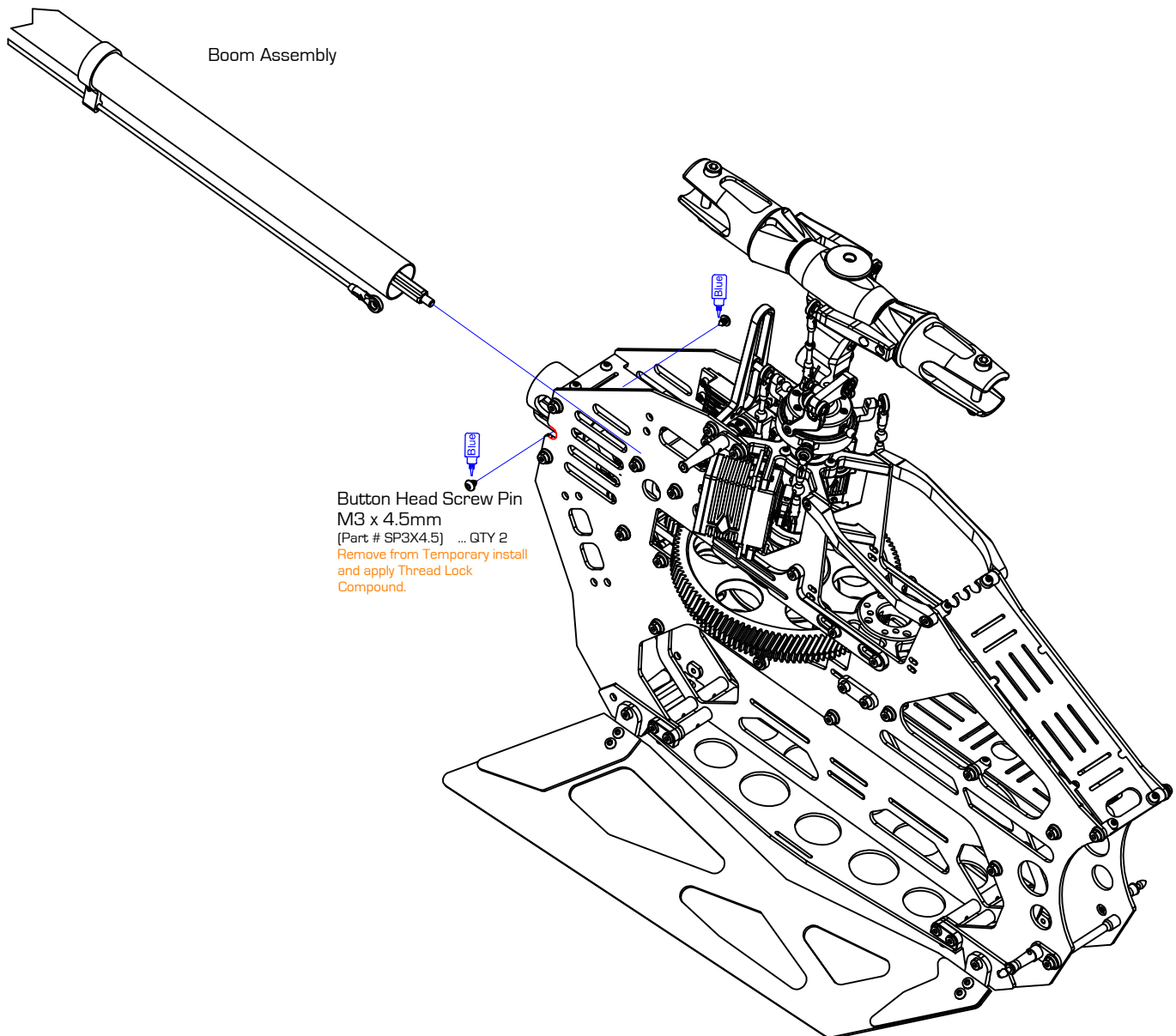




# Boom Assembly Installation

! Install boom assembly until boom opening is completely seated in front boom mount. Once seated align logo on boom and Install (2) Pin screws as shown in Rear Boom mount. Now tighten all (2) M3 pinch clamp screws in rear mount

! Install plastic ball link on tail servo linkage ball upon above noted steps



Use thread lock compound on all  
screws noted by Color:  
Blue = Medium - Red = Strong



# Tail Systems

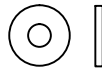
Bag 6 and 11

Button Head Screw Pin M3 x 4.5mm



.....x1

Flat Washer M3 x 8 x 1mm

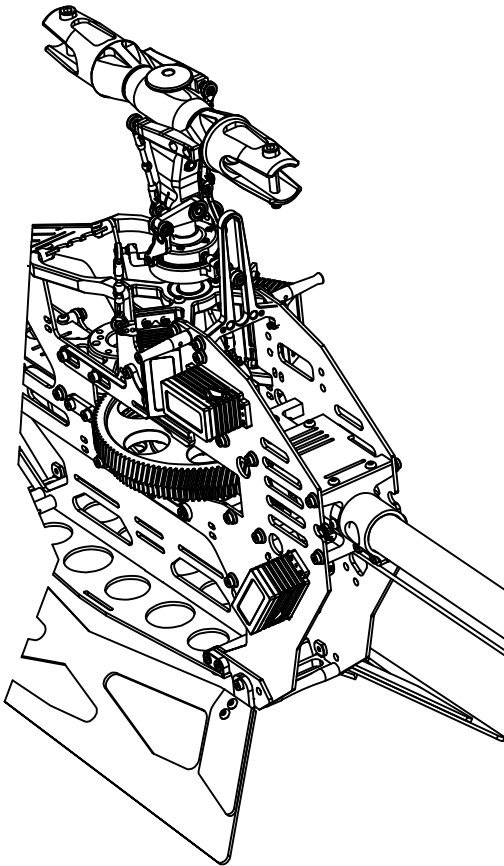


.....x2

Cap Screw Shouldered M3 x 25mm



.....x2

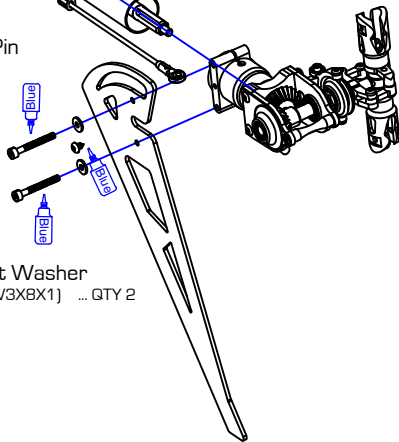


**!** Before installing M3 Pin Screw verify Tail Case assembly is level by comparing that the CF Tail Fin is parallel with Main CF side frames or Tail shaft is level with main gear

Button Head Screw Pin  
M3 X 4.5mm  
[Part # SP3X4.5] ... QTY 1

Cap Screw Shouldered  
M3 x 25mm  
[Part # CSS3X25] ... QTY 2

M3 Flat Washer  
[Part # W3X8X1] ... QTY 2



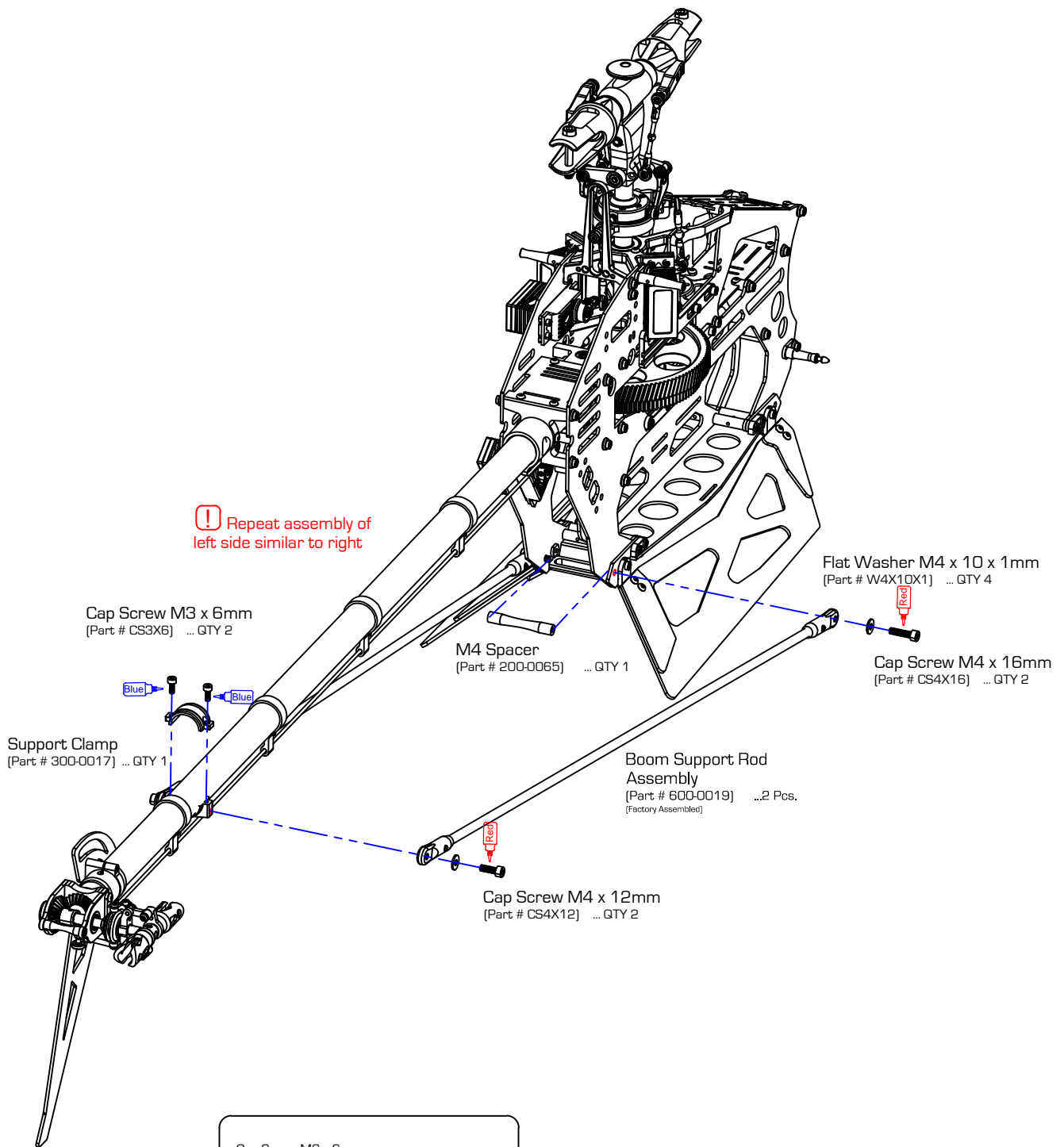
CF Tail Fin Matte Finish  
[Part # 202-0051] ... QTY 1

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong



# Tail Systems

Bag 11

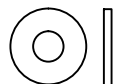


Cap Screw M3 x 6mm



.....x2

Flat Washer M4 x 10 x 1mm



.....x4

Cap Screw M4 x 12mm



.....x2

Cap Screw M4 x 16mm



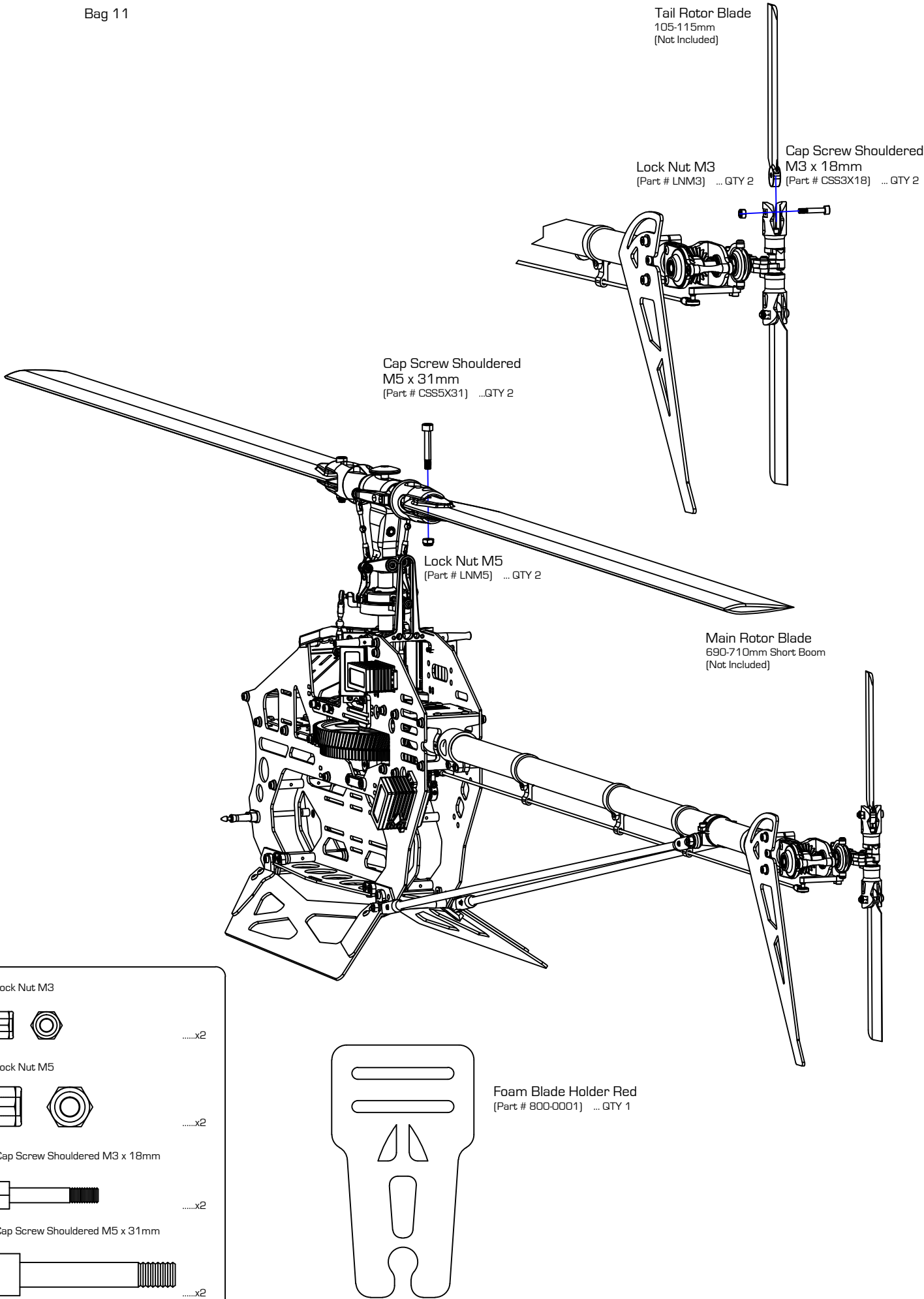
.....x2

Use thread lock compound on all screws noted by Color:  
Blue = Medium - Red = Strong

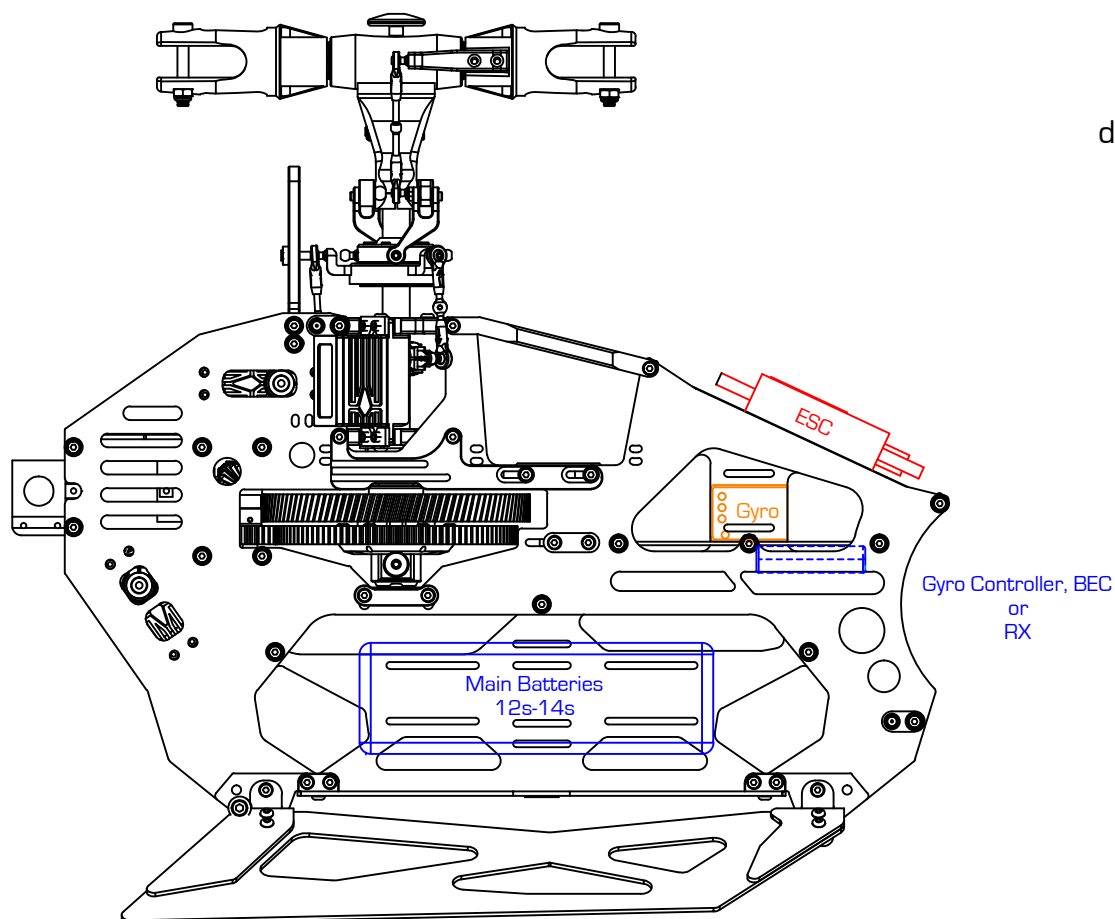
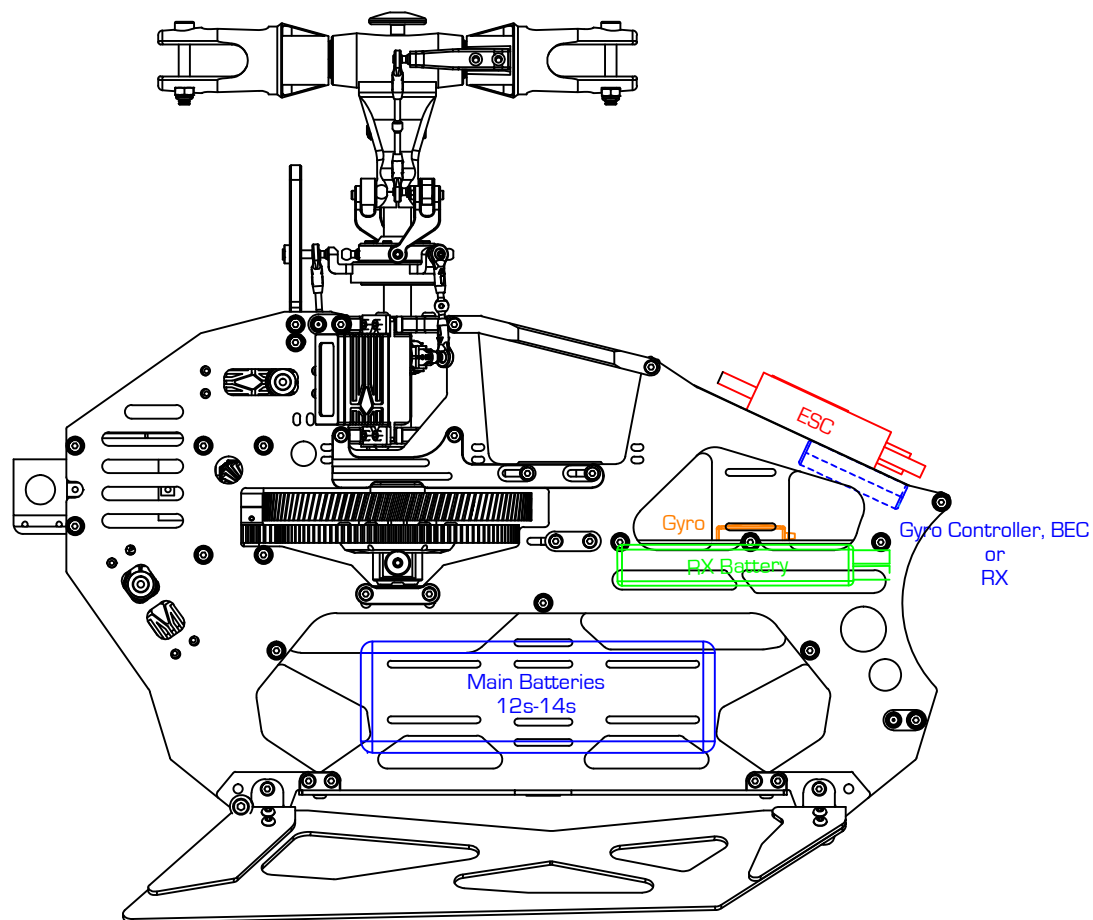


# Rotor Blades

Bag 11



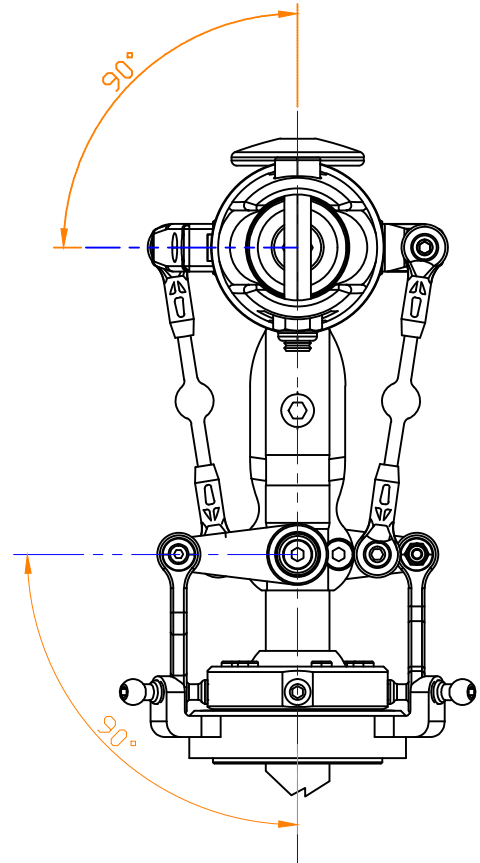
# Electronics Placement



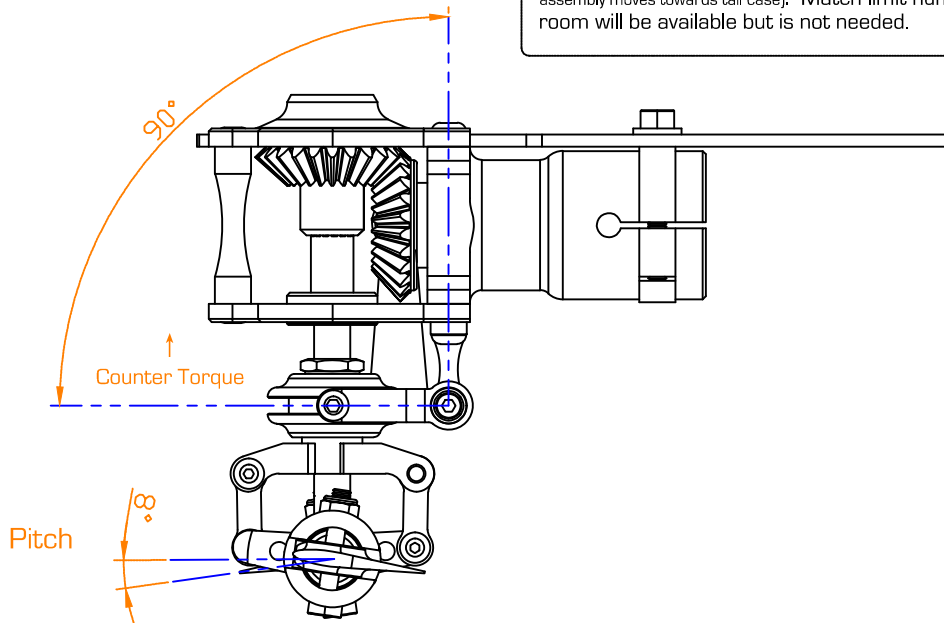
Diagrams display optional electronics placement areas

# Mechanical Setup

At zero degree of pitch levers on center hub should be in noted position to achieve 23 (+) Pos and (-) Neg degree of pitch range



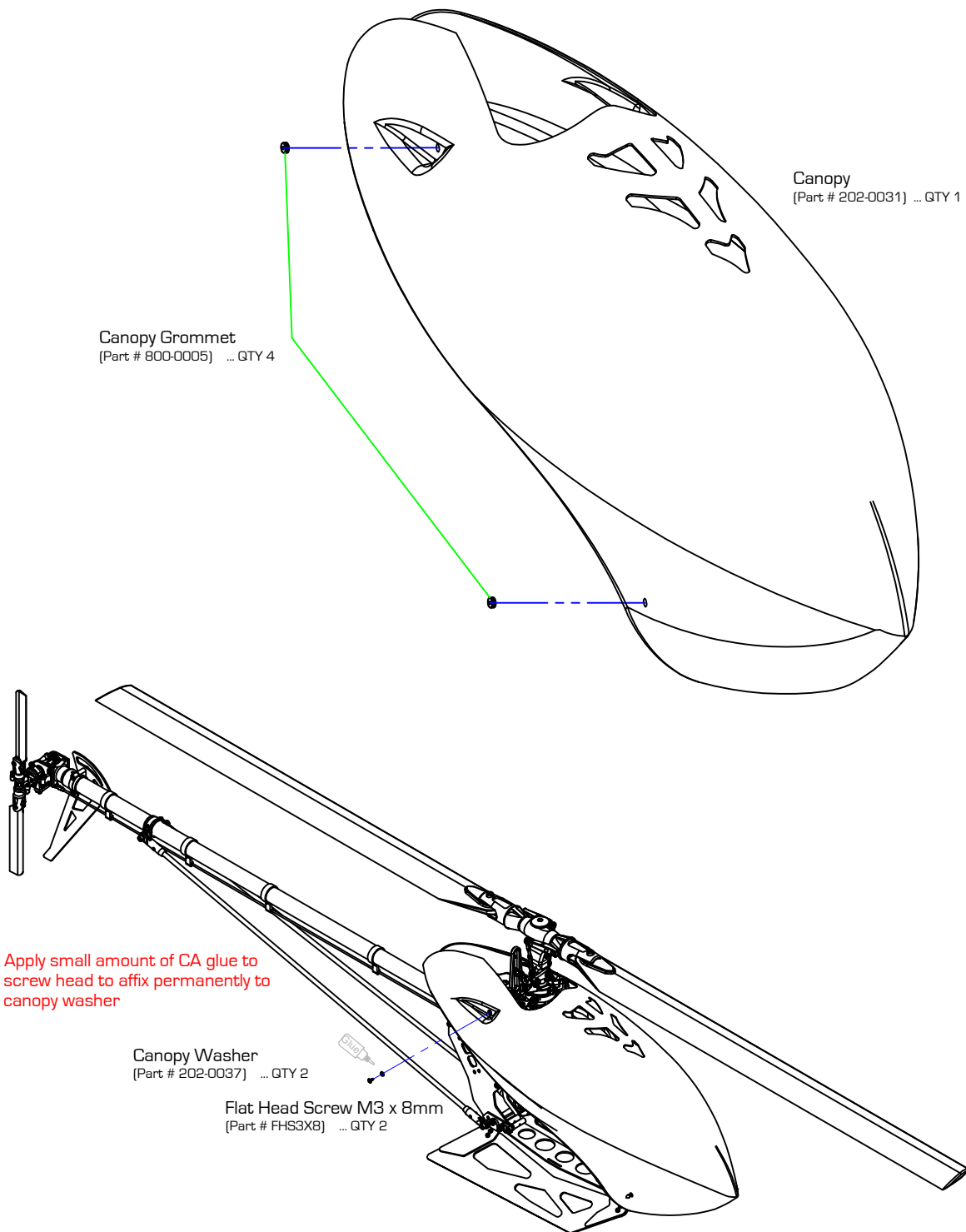
At 90 degree with pitch arm. Tail system will have 8 degrees of counter torque pitch in tail blades. This is mechanically built in and cannot be removed. Set counter torque with end point limit in Gyro to be bind free. (Pitch slider assembly moves towards tail case). Match limit number for opposing side. Extra travel room will be available but is not needed.





# Canopy

Bag 11



Flat Head Screw M3 x 8mm



.....x2

Canopy Grommet



.....x4

[illegible]